Columbia Analytical Services™ 2655 Park Center Drive, Suite A | Simi Valley, CA 93065 | 805.526.7161 | 805.526.7270 fax | www.caslab.com

LABORATORY REPORT

June 28, 2010

Data Coordinator
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

RE: 17131

Dear Data Coordinator:

Enclosed are the results of the samples submitted to our laboratory on June 5, 2010. For your reference, these analyses have been assigned our service request number P1001953.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 601 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA; Washington State Department of Ecology, ELAP Lab ID: C946. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Kate Aguilera

Kate Aguilera
Project Manager

Client: Environmental Health & Engineering, Inc. CAS Project No: P1001953
Project: 17131

CASE NARRATIVE

The samples were received intact under chain of custody on June 5, 2010 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Aldehyde Analysis

The samples were analyzed for aldehydes according to EPA Method TO-11A using high performance liquid chromatography (HPLC).

The sample identified as '111048' was flagged as bias high for the analyte Butyaldehyde due to matrix interference.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Environmental Health & Engineering, Inc. **Service Request:** P1001953
Project: 17131

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P1001953-001	110997	6/4/10	00:00
P1001953-002	110998	6/4/10	00:00
P1001953-003	111000	6/4/10	00:00
P1001953-004	111001	6/4/10	00:00
P1001953-005	111051	6/4/10	00:00
P1001953-006	111052	6/4/10	00:00
P1001953-007	111053	6/4/10	00:00
P1001953-008	111054	6/4/10	00:00
P1001953-009	111055	6/4/10	00:00
P1001953-010	111046	6/4/10	00:00
P1001953-011	111047	6/4/10	00:00
P1001953-012	111048	6/4/10	00:00
P1001953-013	111049	6/4/10	00:00
P1001953-014	111050	6/4/10	00:00
P1001953-015	110986	6/4/10	00:00
P1001953-016	110987	6/4/10	00:00
P1001953-017	110988	6/4/10	00:00
P1001953-018	110989	6/4/10	00:00
P1001953-019	110990	6/4/10	00:00
P1001953-020	111027	6/4/10	00:00
P1001953-021	111028	6/4/10	00:00
P1001953-022	111029	6/4/10	00:00
P1001953-023	111030	6/4/10	00:00
P1001953-024	111031	6/4/10	00:00
P1001953-025	111006	6/4/10	00:00
P1001953-026	111007	6/4/10	00:00
P1001953-027	111008	6/4/10	00:00
P1001953-028	111009	6/4/10	00:00
P1001953-029	111010	6/4/10	00:00

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 4 JUN 10

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

P1001953

TO: COLUMBIA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17131

The cost of this analysis will be covered by EH&E Purchase Order # 17131

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER (Time/Date/Vol.)
110997	AIR	ALDEHYDE ANALYSIS	13D 17H 50M
110998	"	"	"
111000	"	"	"
111001	"	"	∅
111051	"	"	13D 40M
111052	"	"	"
111053	"	"	"
111054	"	"	"
111055	"	"	∅
111046	"	"	13D 8H 25M
111047	"	"	"
111048	"	"	"
111049	"	"	"
111050	"	"	∅
110986	"	"	14D 16M
110987	"	"	"

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES**

☐ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient bburese@eheinc.com

3°C

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 6/4/10

Received by: _____ of (company name) CMS Date: 6/5/10 1150

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 4 JUN 10

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

P1001953

TO: COLUMBIA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17131

The cost of this analysis will be covered by EH&E Purchase Order # 17131

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER (Time/Date/Vol.)
110988	AIR	ALDEHYDE ANALYSIS	14D 16H
110989	↓	↓	↓
110990			Ø
111027			14D 15H 15M
111028			↓
111029			↓
111030			↓
111031			Ø
111006			14D 16H 5M
111007			↓
111008			↓
111009			↓
111010	↓	↓	Ø

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☐ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient bbaker@eheinc.com

3°C

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 6/4/10

Received by: _____ of (company name) CAS Date: 6/5/10 1150

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 2 of 2

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Environmental Health & Engineering, Inc. Work order: P1001953

Project: 17131

Sample(s) received on: 6/5/2010 Date opened: 6/5/2010 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature _____ °C Blank Temperature 3 °C			
10	Was a **trip blank** received?	☐	☒	☐
	Was a blank tube received?	☒	☐	☐
11	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
12	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☒	☐	☐
	Do they contain moisture?	☐	☒	☐
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1001953-001.01	Passive (Radiello DNPH)					
P1001953-002.01	Passive (Radiello DNPH)					
P1001953-003.01	Passive (Radiello DNPH)					
P1001953-004.01	Passive (Radiello DNPH)					
P1001953-005.01	Passive (Radiello DNPH)					

Explain any discrepancies: (include lab sample ID numbers):

The times of sample collection were not indicated on the COC.

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12) RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Environmental Health & Engineering, Inc. Work order: P1001953

Project: 17131

Sample(s) received on: 6/5/2010 Date opened: 6/5/2010 by: MZAMORA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1001953-006.01	Passive (Radiello DNPH)					
P1001953-007.01	Passive (Radiello DNPH)					
P1001953-008.01	Passive (Radiello DNPH)					
P1001953-009.01	Passive (Radiello DNPH)					
P1001953-010.01	Passive (Radiello DNPH)					
P1001953-011.01	Passive (Radiello DNPH)					
P1001953-012.01	Passive (Radiello DNPH)					
P1001953-013.01	Passive (Radiello DNPH)					
P1001953-014.01	Passive (Radiello DNPH)					
P1001953-015.01	Passive (Radiello DNPH)					
P1001953-016.01	Passive (Radiello DNPH)					
P1001953-017.01	Passive (Radiello DNPH)					
P1001953-018.01	Passive (Radiello DNPH)					
P1001953-019.01	Passive (Radiello DNPH)					
P1001953-020.01	Passive (Radiello DNPH)					
P1001953-021.01	Passive (Radiello DNPH)					
P1001953-022.01	Passive (Radiello DNPH)					
P1001953-023.01	Passive (Radiello DNPH)					
P1001953-024.01	Passive (Radiello DNPH)					
P1001953-025.01	Passive (Radiello DNPH)					
P1001953-026.01	Passive (Radiello DNPH)					
P1001953-027.01	Passive (Radiello DNPH)					
P1001953-028.01	Passive (Radiello DNPH)					
P1001953-029.01	Passive (Radiello DNPH)					

Explain any discrepancies: (include lab sample ID numbers):

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12) RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

RESULTS OF ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **110997**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-001

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/16 - 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 19790 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**51**	**26**	0.10	**21**	0.083	
75-07-0	**Acetaldehyde**	**9.4**	**5.7**	0.12	**3.1**	0.067	
123-38-6	**Propionaldehyde**	**1.5**	**2.0**	0.26	**0.84**	0.11	
123-72-8	**Butyraldehyde**	**2.6**	**12**	0.92	**4.0**	0.31	
100-52-7	**Benzaldehyde**	**4.2**	**2.3**	0.11	**0.53**	0.025	
590-86-3	**Isovaleraldehyde**	**1.8**	**1.5**	0.17	**0.42**	0.047	
110-62-3	**Valeraldehyde**	**5.1**	**9.6**	0.37	**2.7**	0.11	
66-25-1	**n-Hexaldehyde**	**22**	**63**	0.56	**15**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

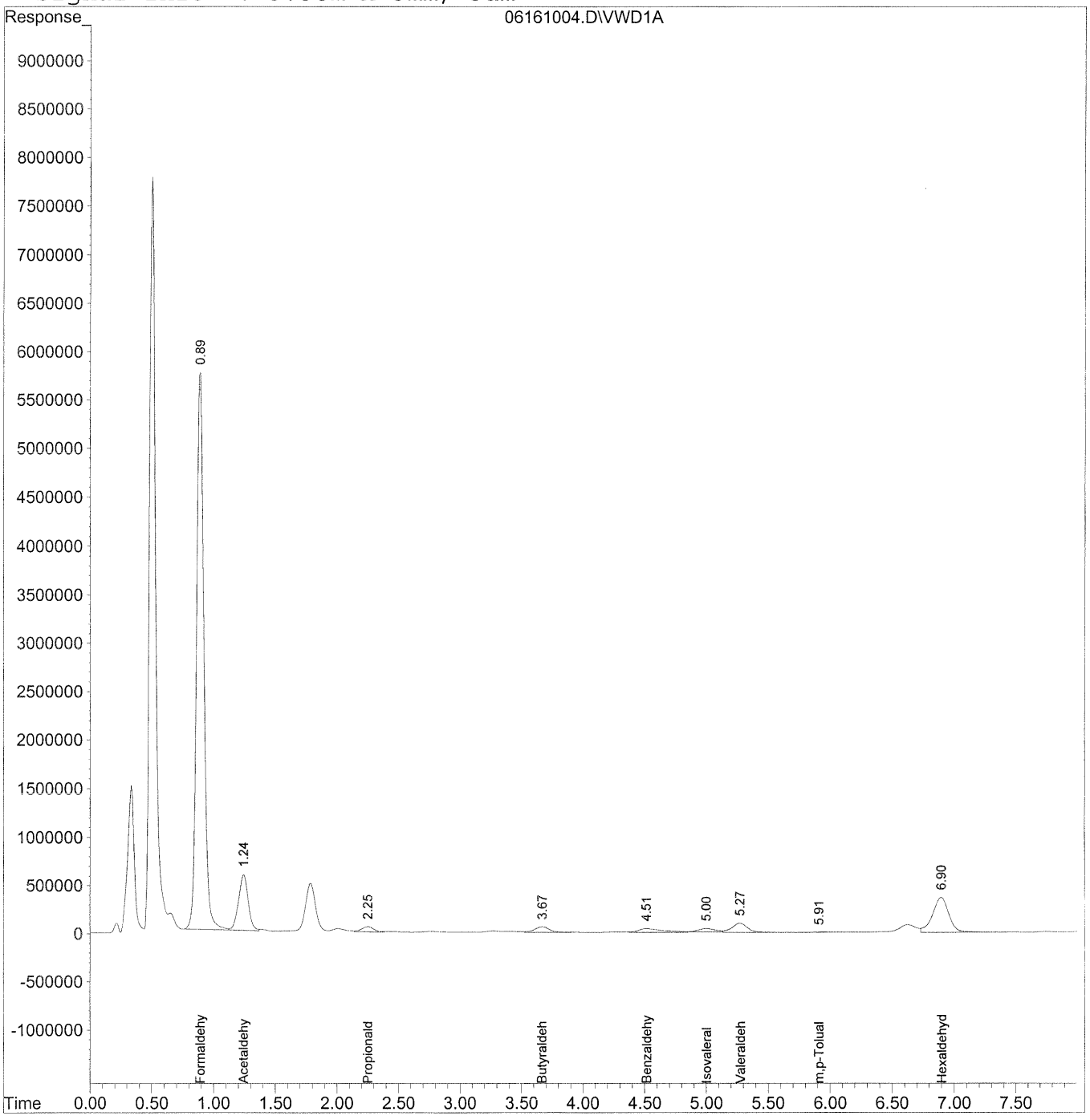
Verified By: Re Date: 6/21/10

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 14:16 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 14:16 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

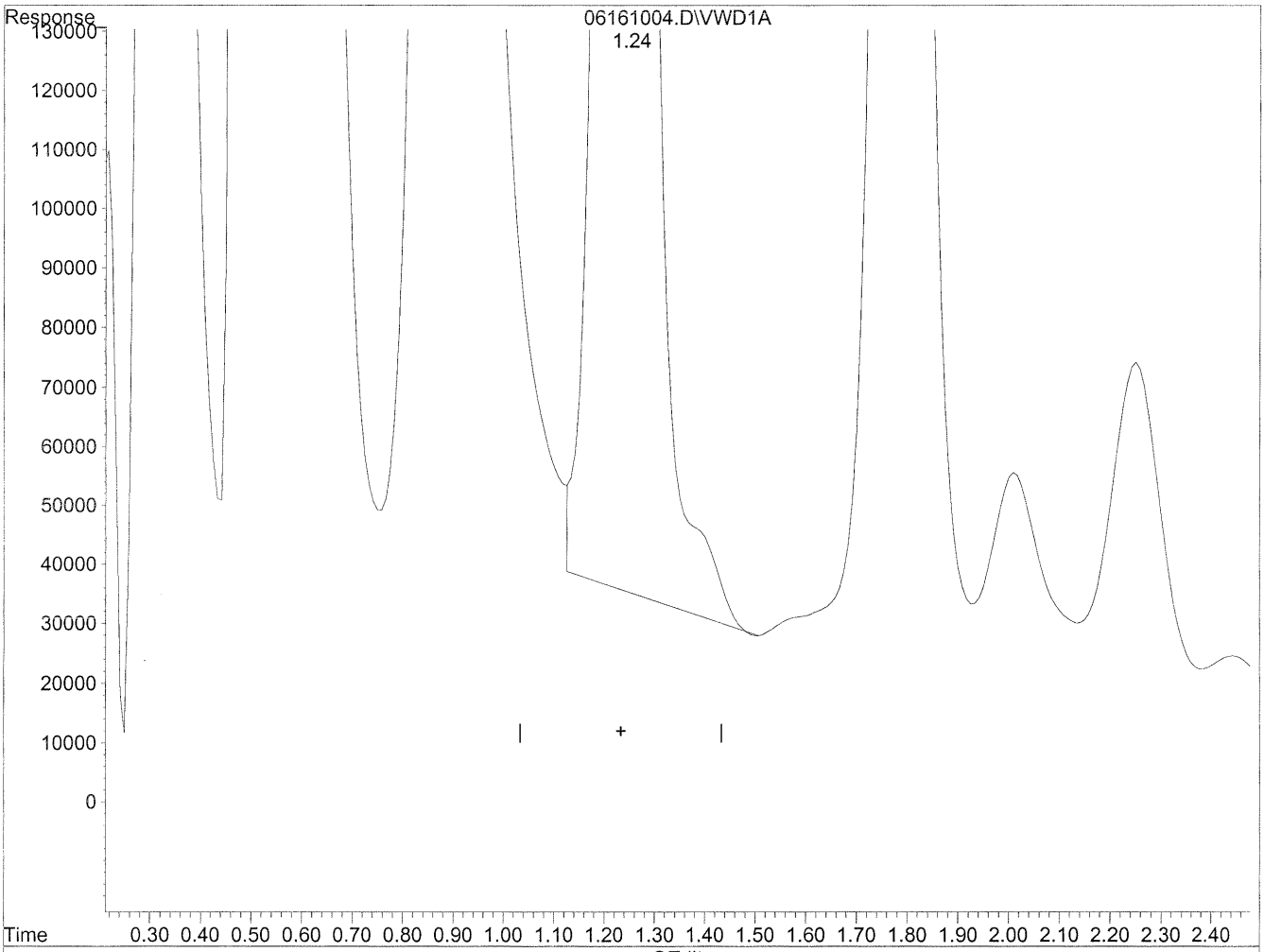
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	238138624	~~25516.107~~	~~ng/ml~~
2)	Acetaldehyde	1.24	31730722	4711.158	ng/mlm
3)	Propionaldehyde	2.25	3720163	765.147	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.67	5139054	1275.420	ng/mlm
6)	Benzaldehyde	4.51	5652947	2088.484	ng/mlm
7)	Isovaleraldehyde	5.00	3175923	895.205	ng/mlm
8)	Valeraldehyde	5.27	8631074	2572.896	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	5.91	167436	71.474	ng/ml
11)	Hexaldehyde	6.90	32880884	~~11435.345~~	~~ng/ml~~
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 9:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.25min 4791.237ng/ml

response 32270069

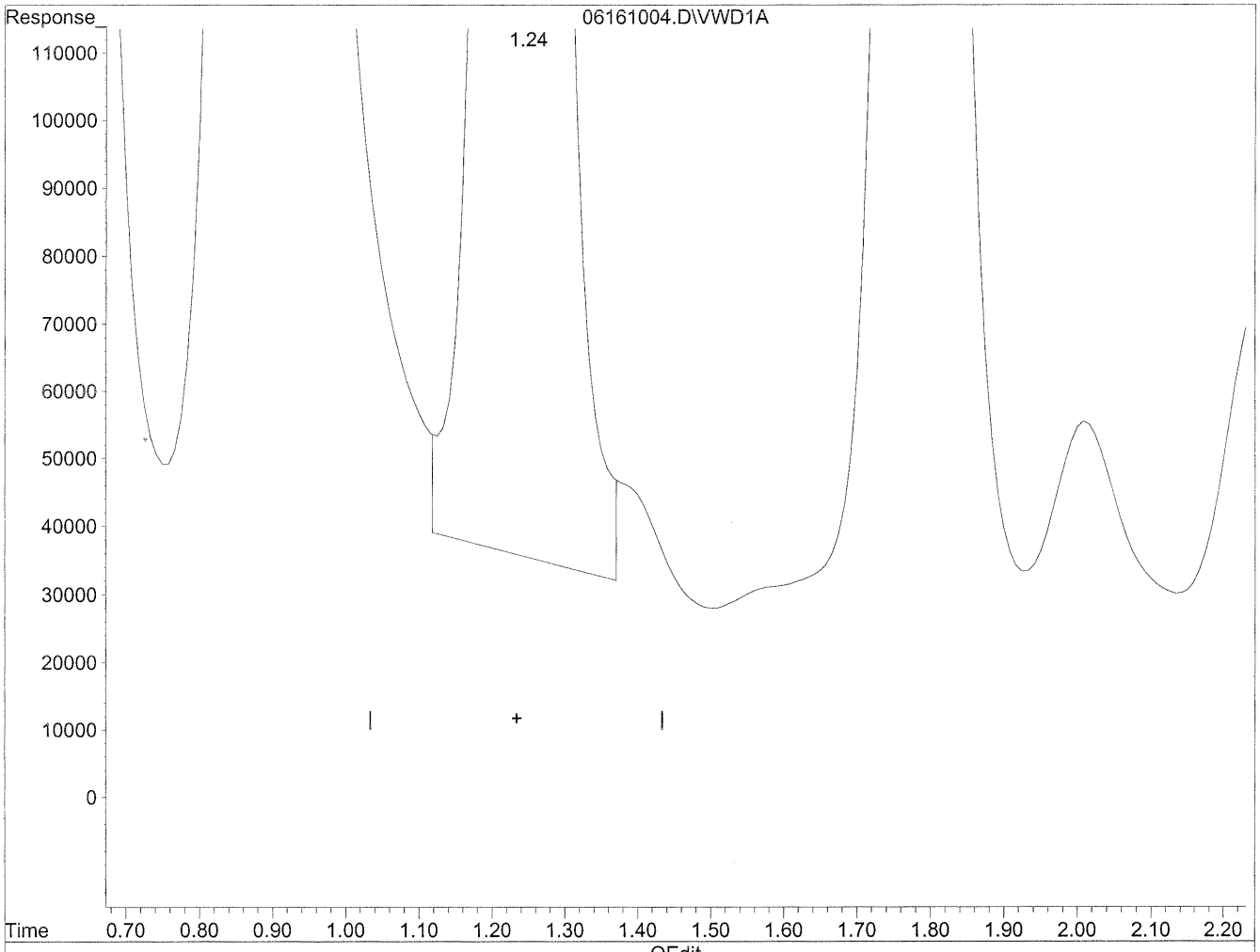
(+) = Expected Retention Time

06161004.D TO110510.M Wed Jun 16 14:13:25 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 9:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.24min 4711.158ng/ml m

response 31730722

6/17/10

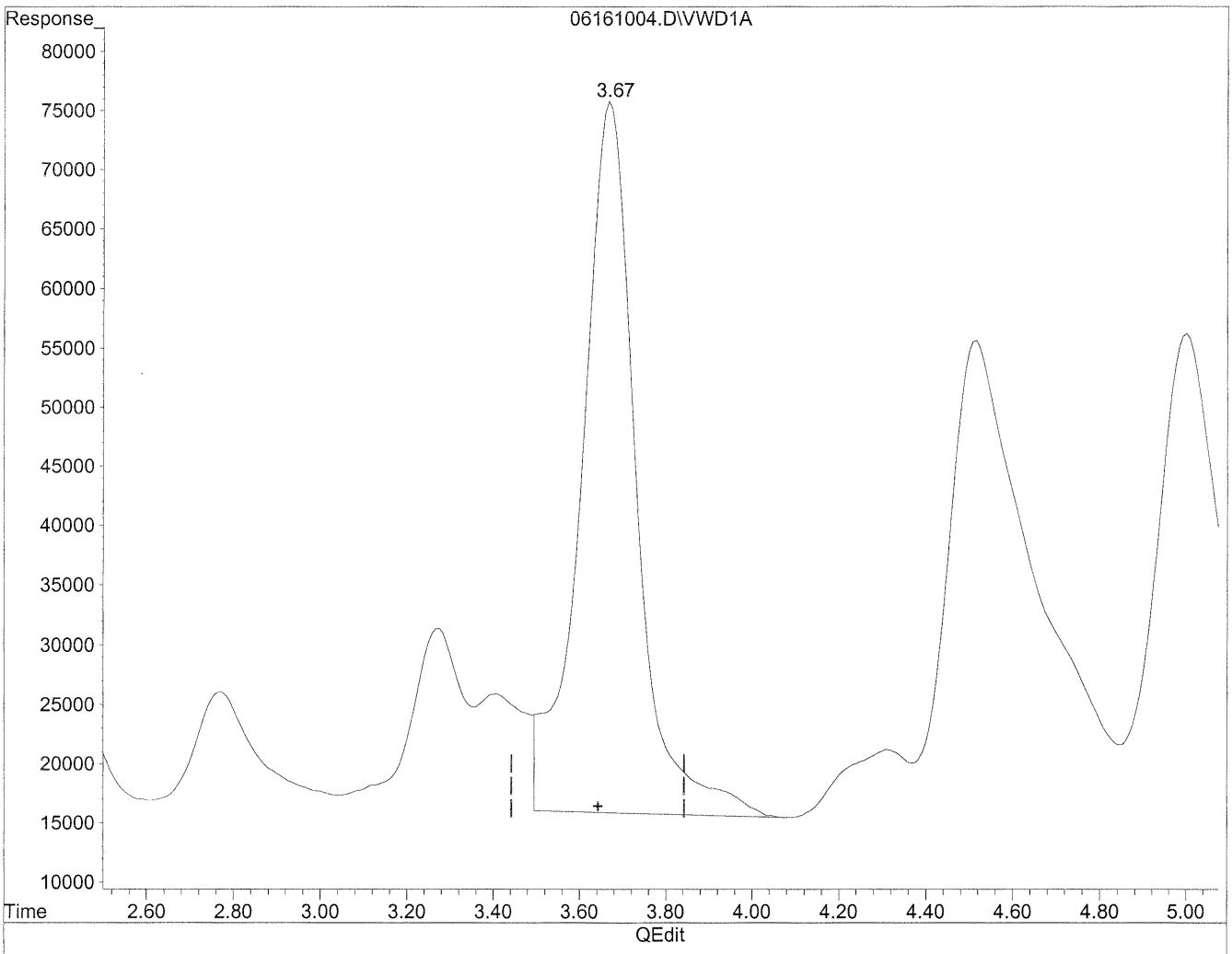
6/21/10

(+) = Expected Retention Time
06161004.D TO110510.M Wed Jun 16 14:14:34 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 9:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.67min 1320.240ng/ml

response 5319647

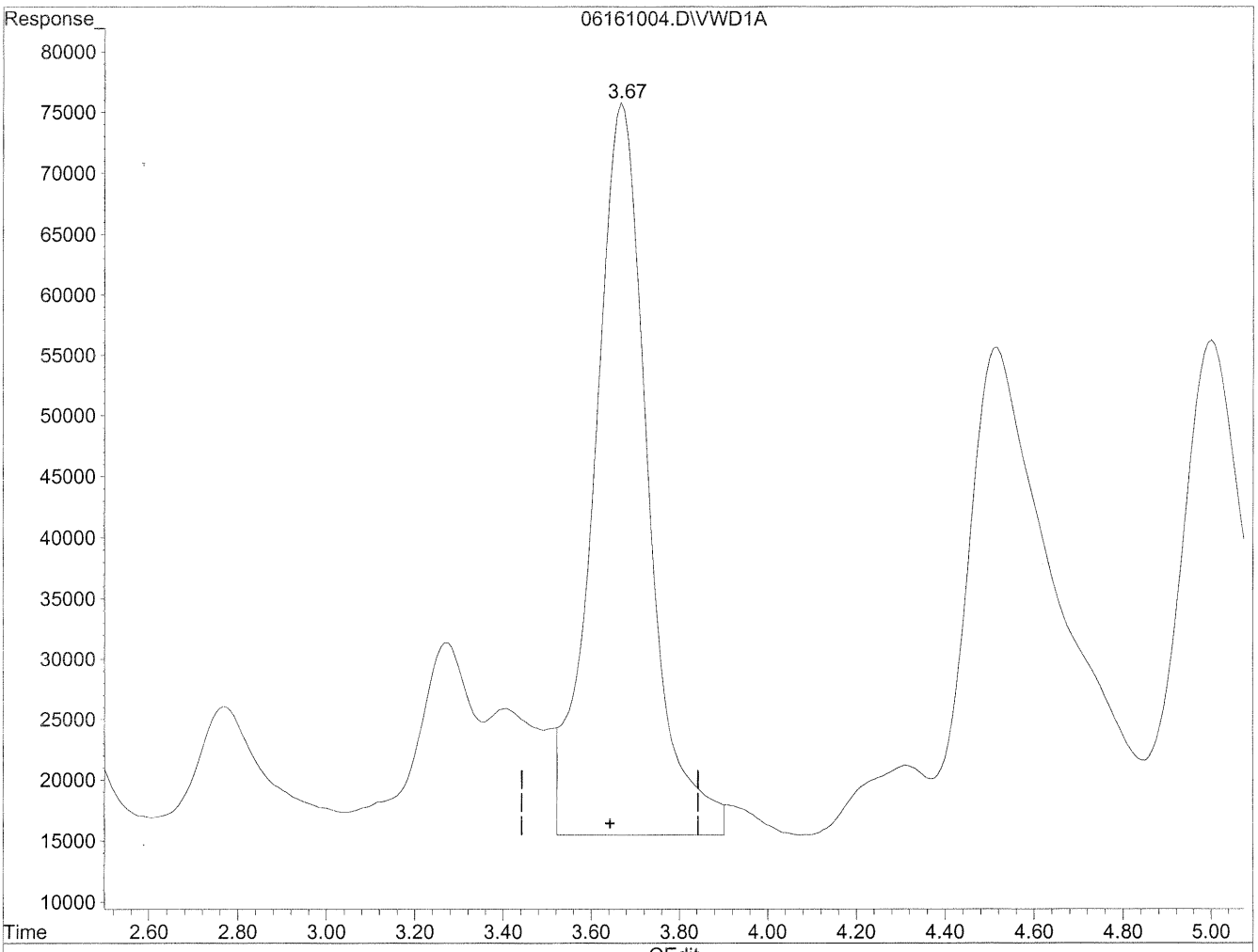
(+) = Expected Retention Time

06161004.D TO110510.M Wed Jun 16 14:14:48 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 9:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.67min 1275.420ng/ml m

response 5139054

RL 6/17/10 BC, SH

6/21/10

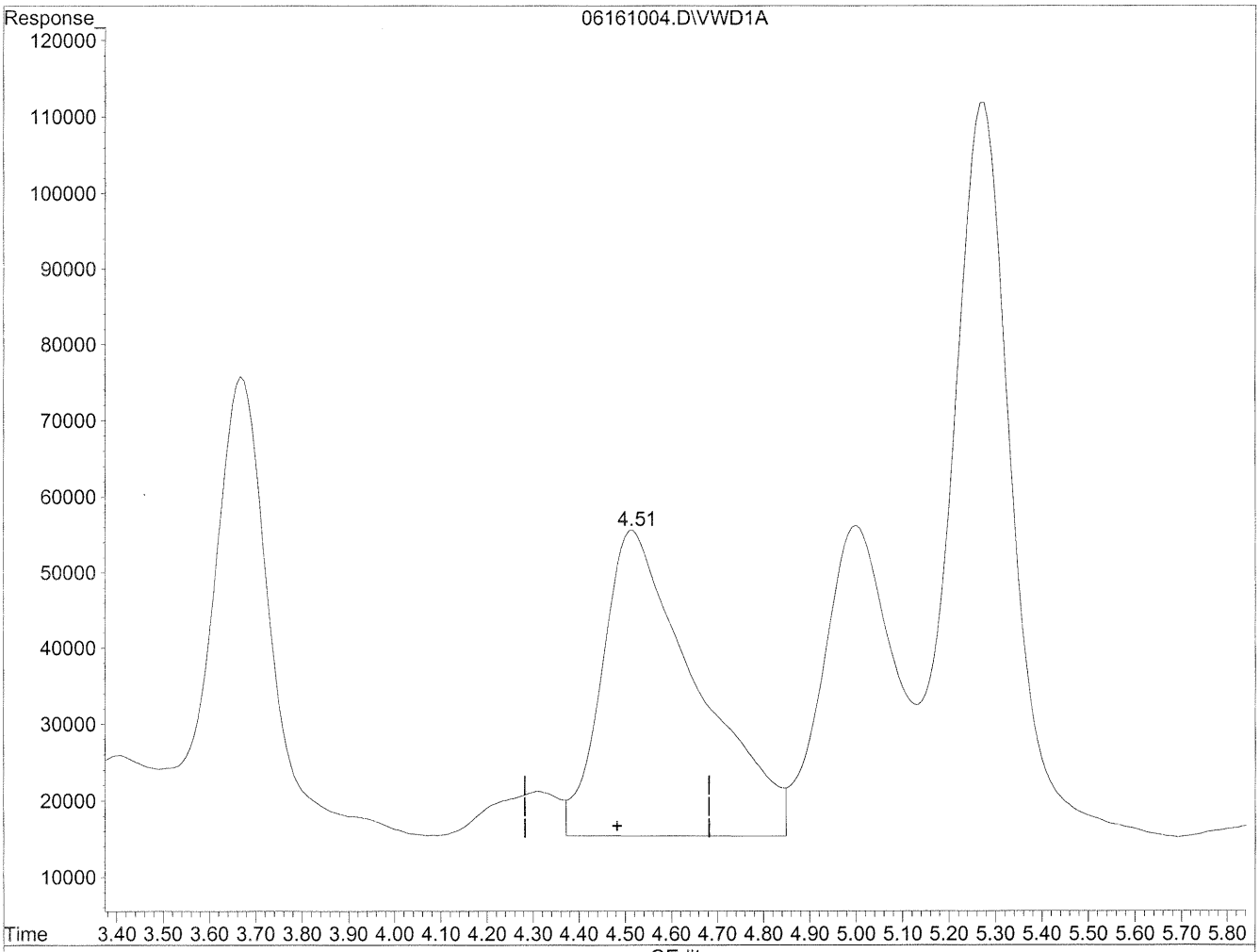
(+) = Expected Retention Time

06161004.D TO110510.M Wed Jun 16 14:15:28 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 9:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.52min 2107.682ng/ml

response 5704912

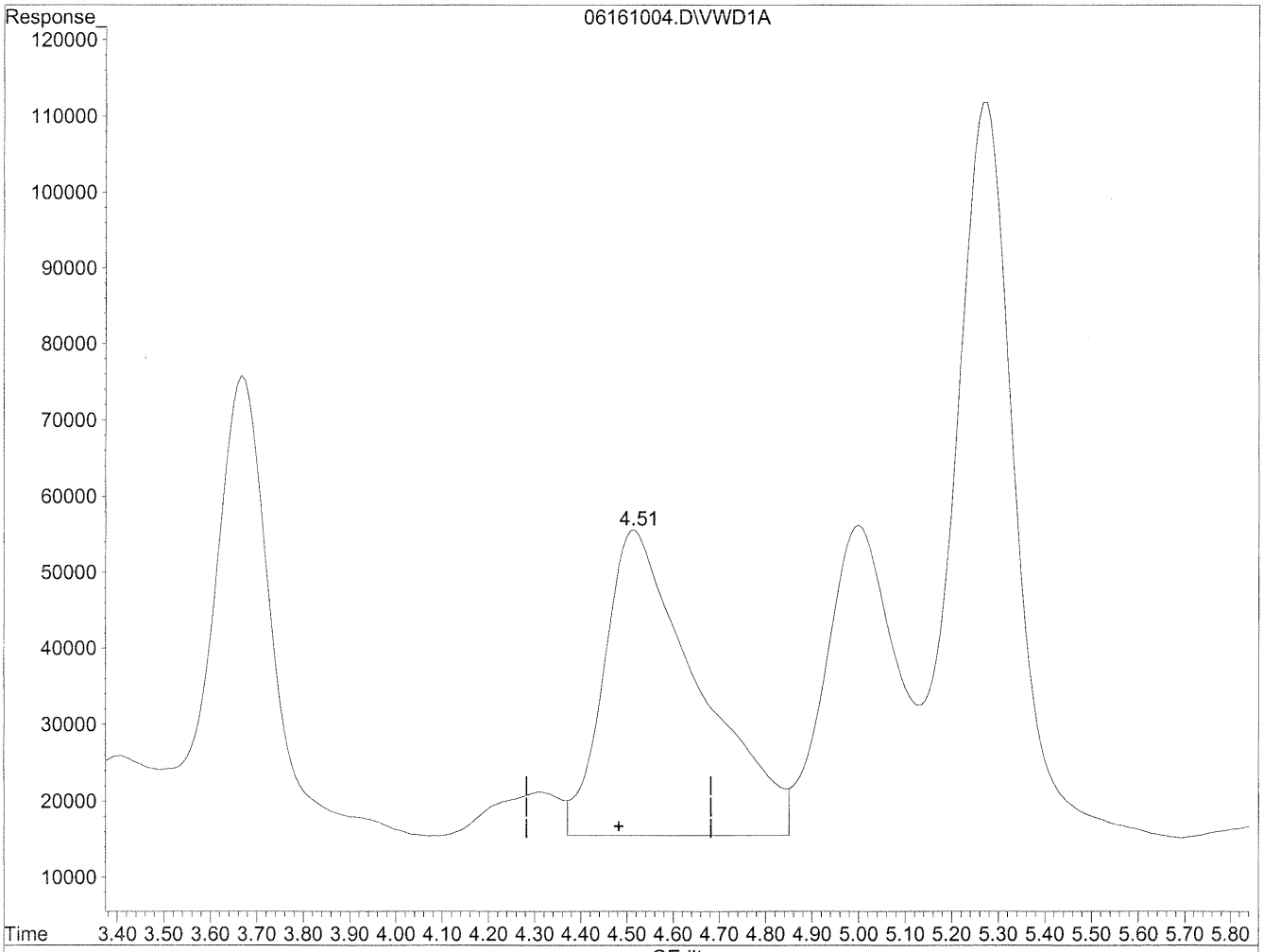
(+) = Expected Retention Time

06161004.D TO110510.M Wed Jun 16 14:15:34 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 9:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.51min 2088.484ng/ml m

response 5652947

HC 6/17/10
BC ~~[illegible]~~

6/21/10

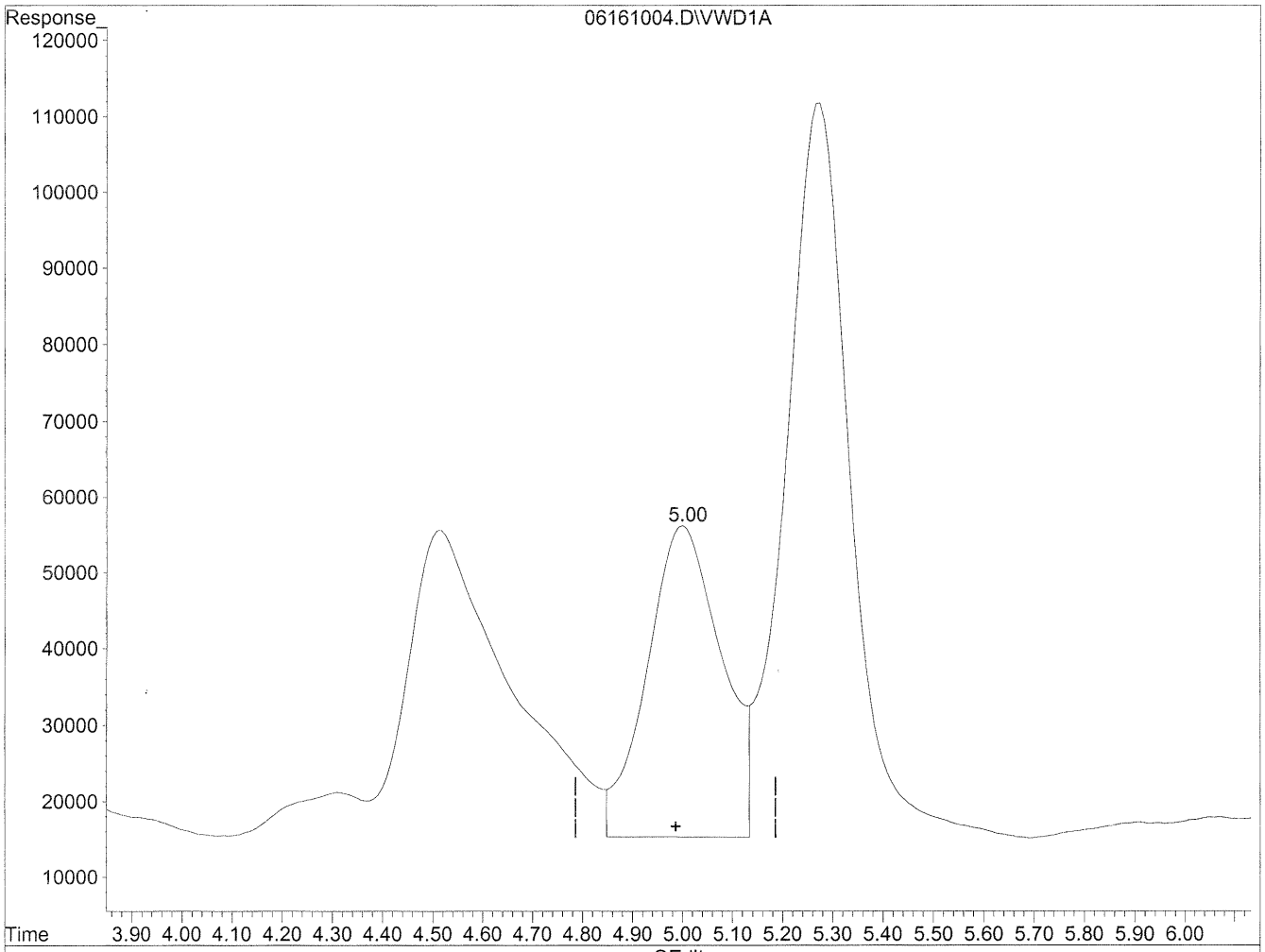
(+) = Expected Retention Time

06161004.D TO110510.M Wed Jun 16 14:15:49 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 9:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.00min 1183.905ng/ml

response 4200146

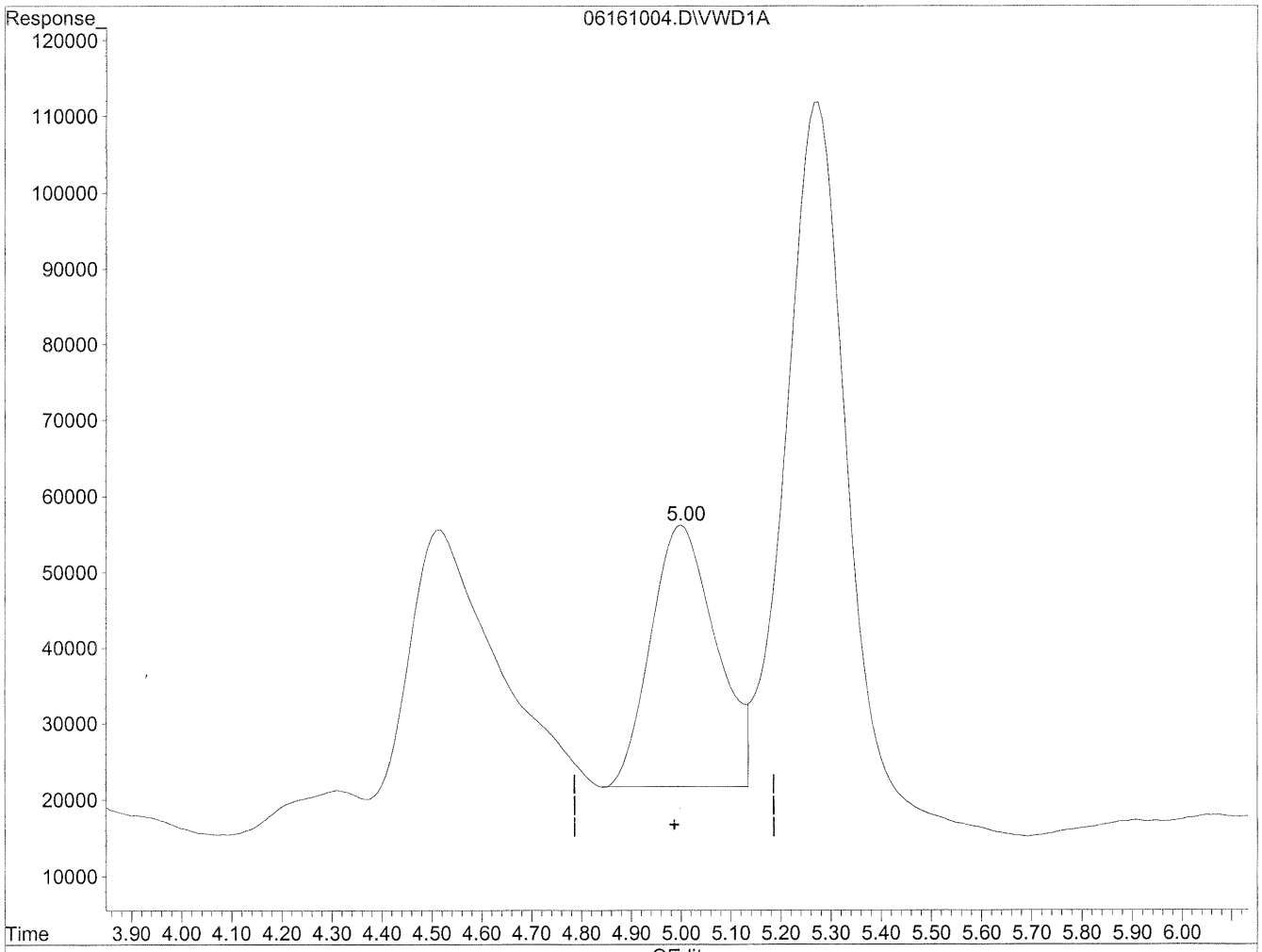
(+) = Expected Retention Time

06161004.D TO110510.M Wed Jun 16 14:15:53 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 9:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.00min 895.205ng/ml m

response 3175923

tlc 6/17/10 BC

RP 6/21/10

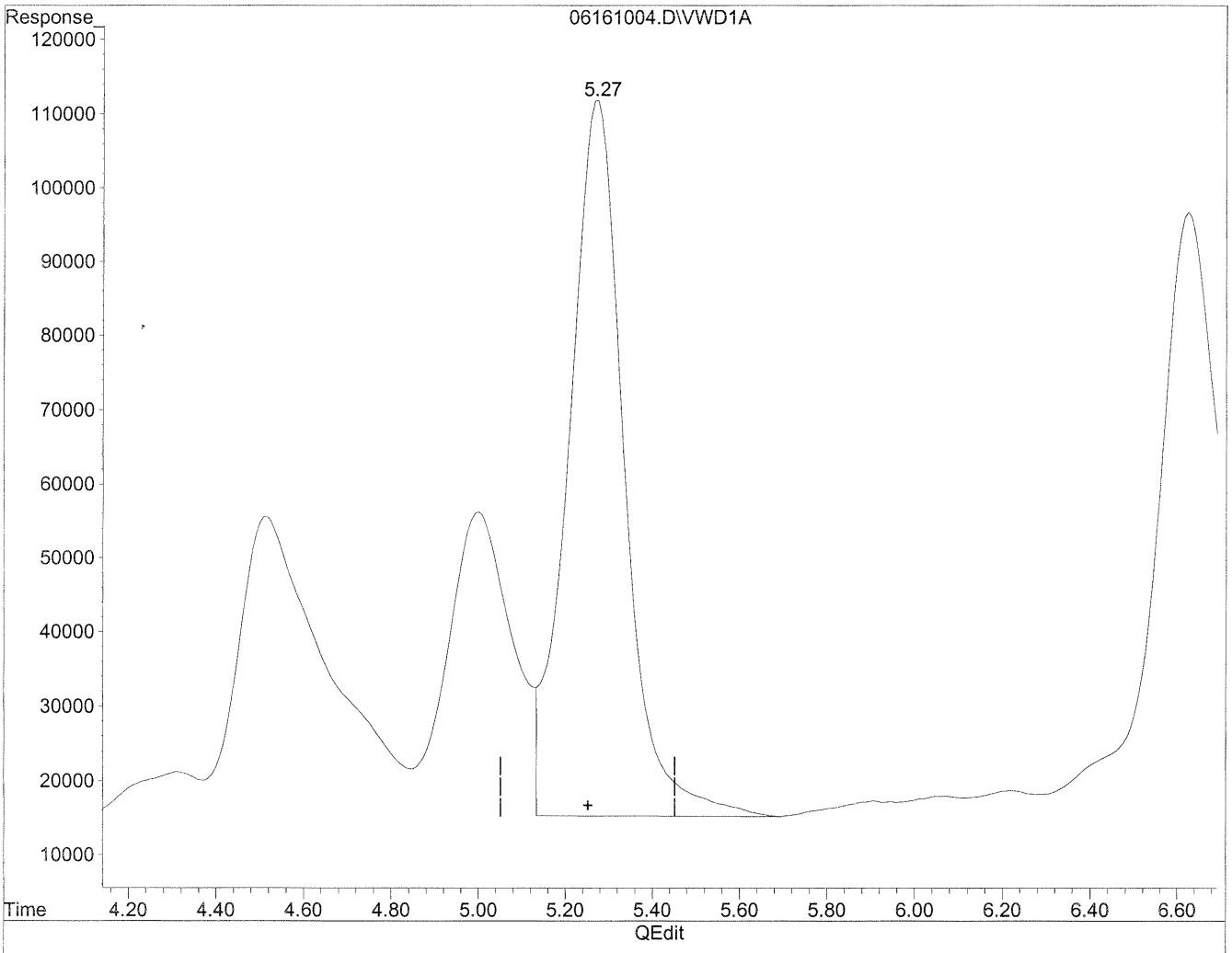
(+) = Expected Retention Time

06161004.D TO110510.M Wed Jun 16 14:16:02 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 9:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.27min 2573.883ng/ml

response 8634387

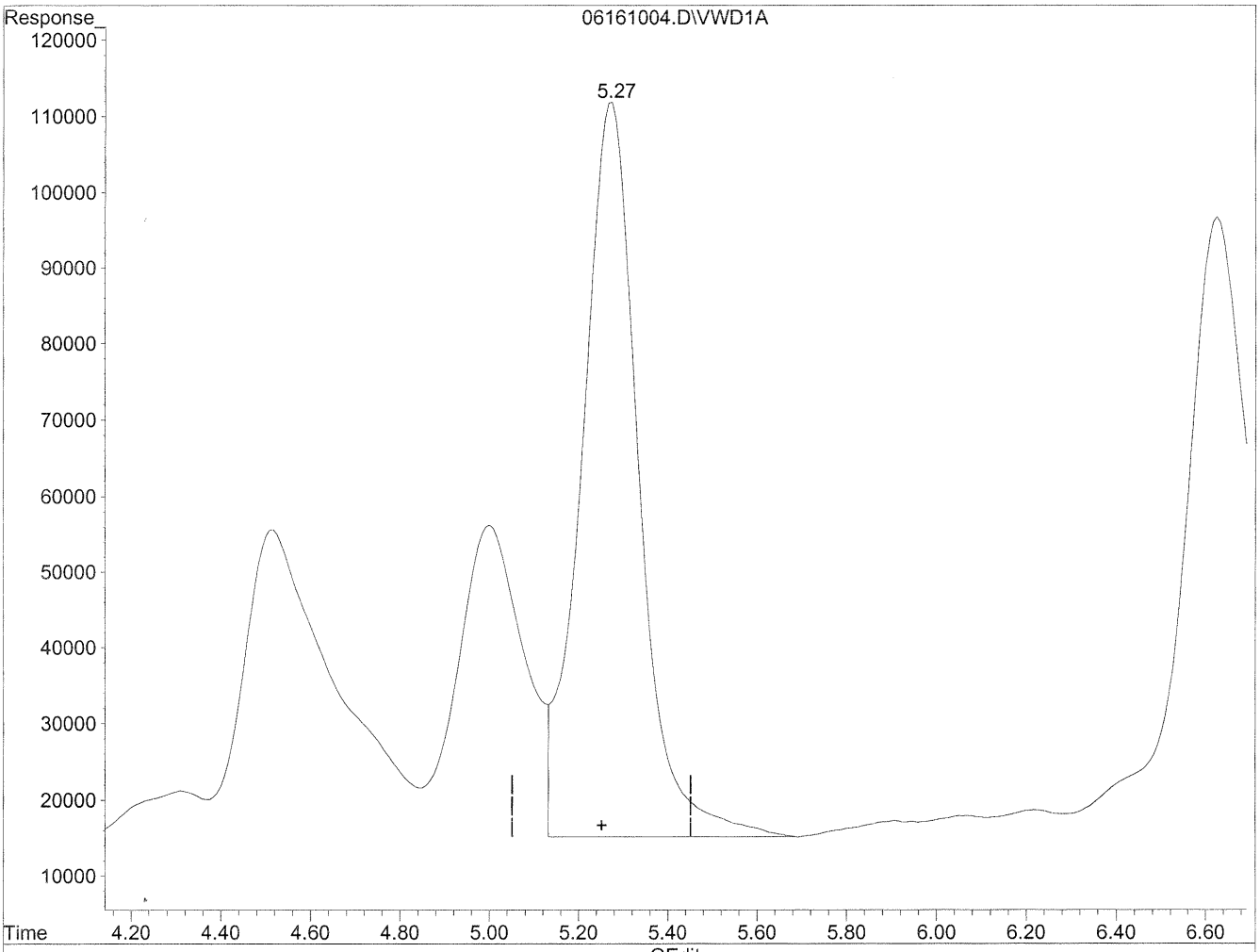
(+) = Expected Retention Time

06161004.D TO110510.M Wed Jun 16 14:16:07 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161004.D Vial: 101
Acq On : 16-Jun-2010, 09:39:25 Operator: HC/SM
Sample : P1001953-001 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 9:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.27min 2572.896ng/ml m

response 8631074

tlc 6/17/10 BC 6/21/10

(+) = Expected Retention Time

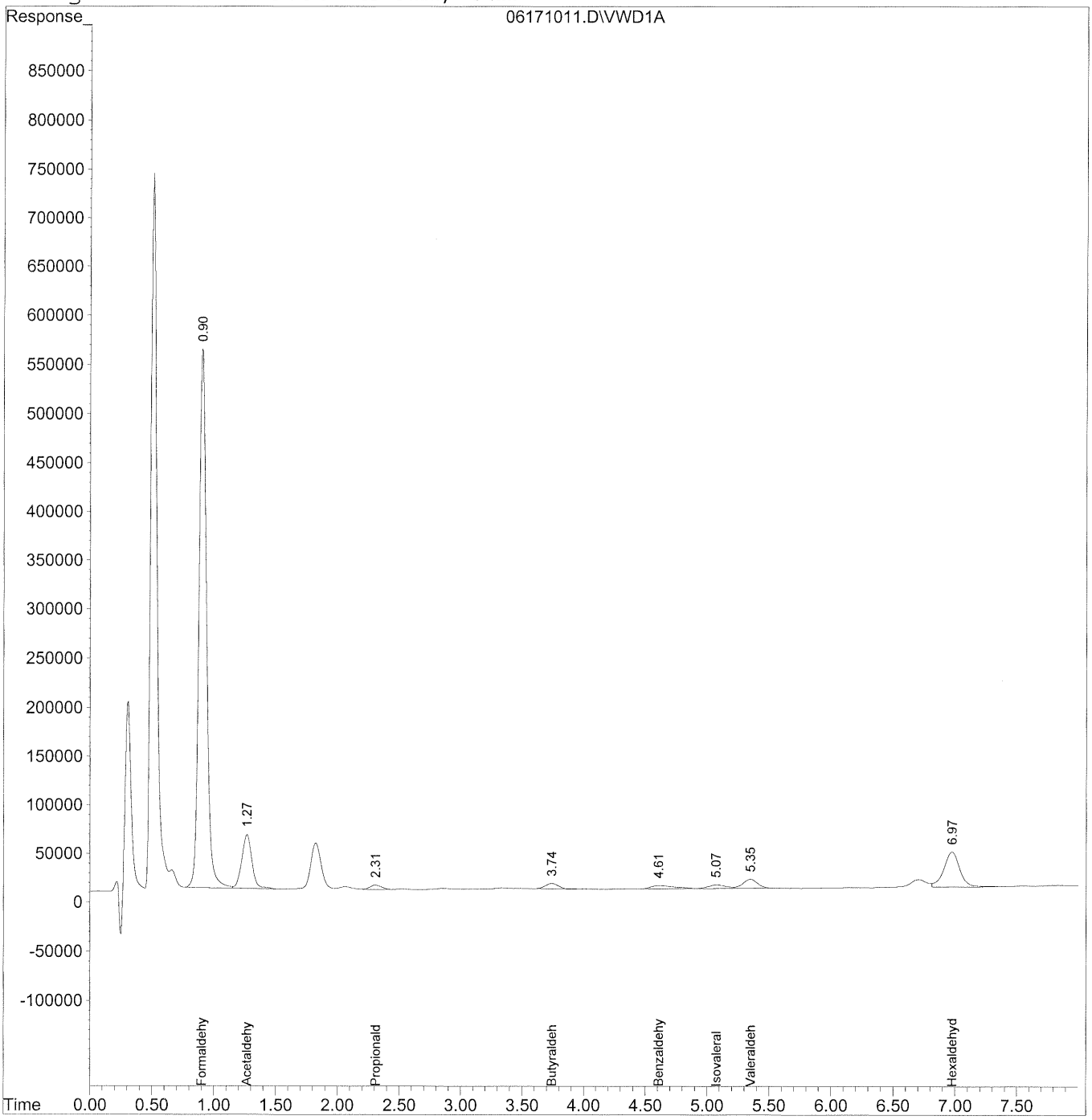
06161004.D TO110510.M Wed Jun 16 14:16:24 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171011.D Vial: 107
Acq On : 17-Jun-2010, 11:18:16 Operator: HC/SM
Sample : P1001953-001 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:49 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171011.D Vial: 107
Acq On : 17-Jun-2010, 11:18:16 Operator: HC/SM
Sample : P1001953-001 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:49 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

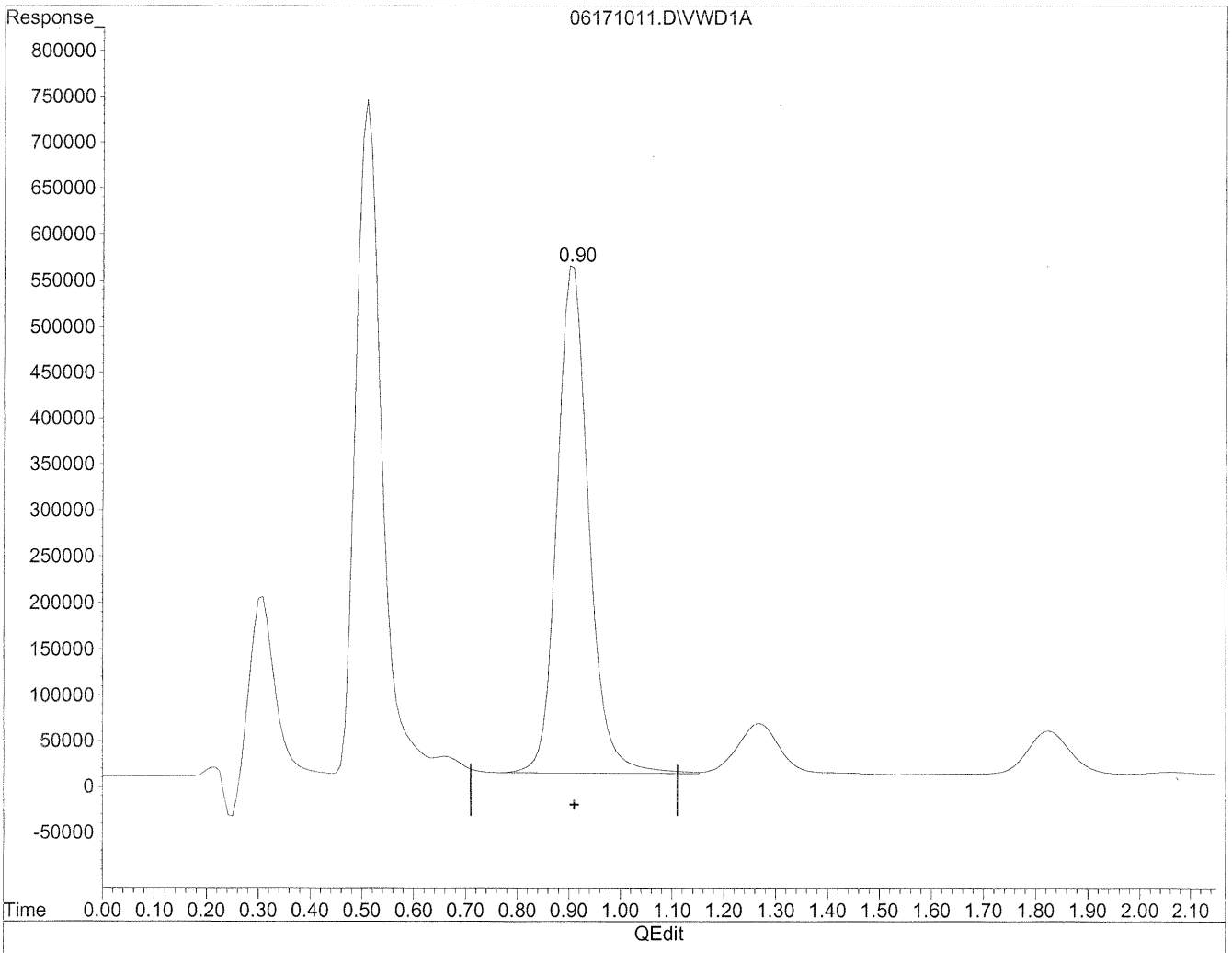
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.91	23574804	2525.996	ng/ml
2)	Acetaldehyde	1.27	3194830	474.346	ng/ml
3)	Propionaldehyde	2.31	280377	57.667	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.74	403291	100.090	ng/ml
6)	Benzaldehyde	4.61	459789	169.869	ng/ml
7)	Isovaleraldehyde	5.08	385507	108.664	ng/ml
8)	Valeraldehyde	5.35	791007	235.797	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.98	3221549	1120.393	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171011.D Vial: 107
Acq On : 17-Jun-2010, 11:18:16 Operator: HC/SM
Sample : P1001953-001 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:49 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.91min 2525.996ng/ml

response 23574804

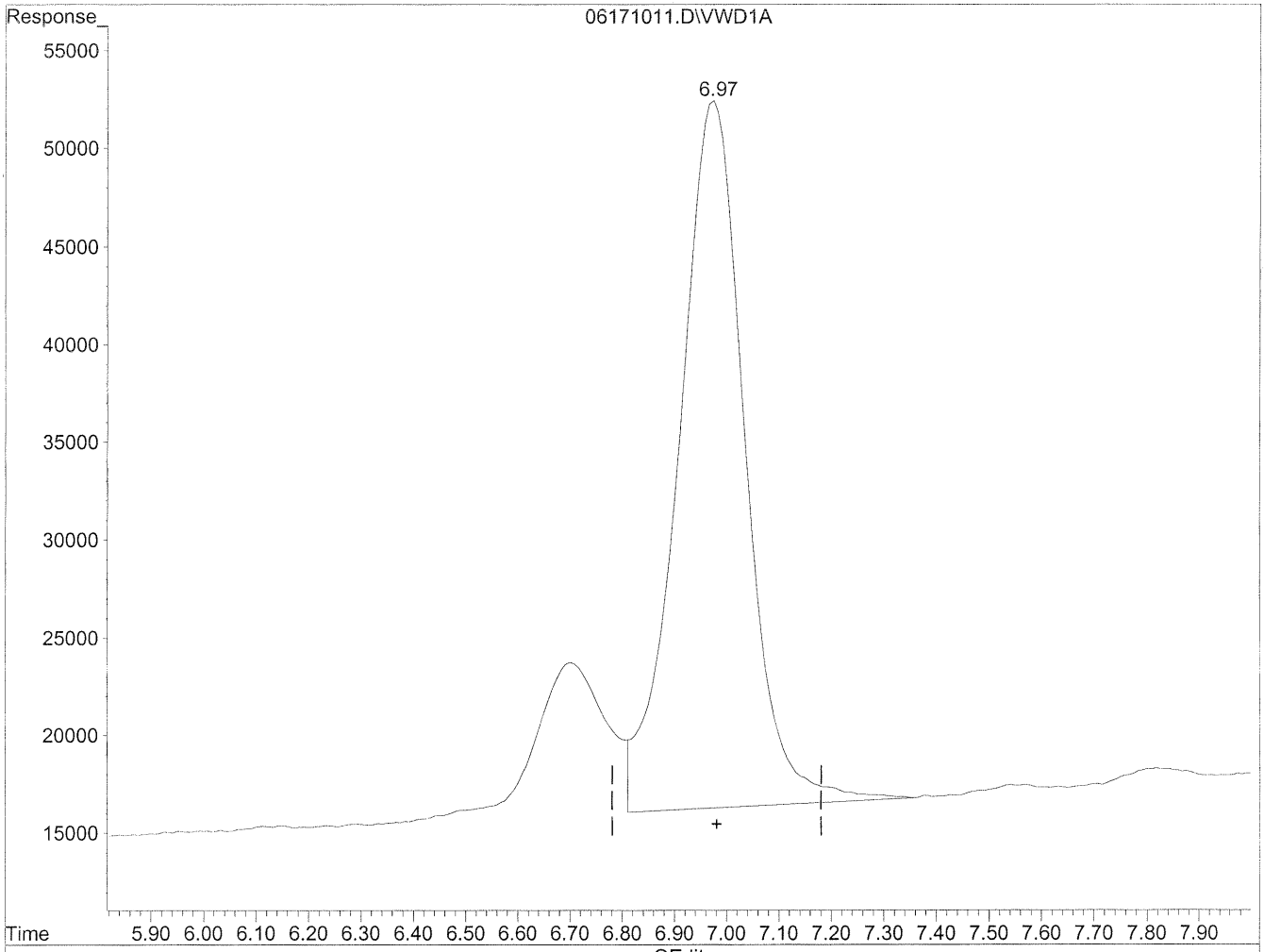
(+) = Expected Retention Time

06171011.D TO110510.M Fri Jun 18 08:18:47 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171011.D Vial: 107
Acq On : 17-Jun-2010, 11:18:16 Operator: HC/SM
Sample : P1001953-001 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:49 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.98min 1120.393ng/ml

response 3221549

(+) = Expected Retention Time

06171011.D TO110510.M Fri Jun 18 08:18:52 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **110998**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-002

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/16 - 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 19790 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**49**	**25**	0.10	**20**	0.083	
75-07-0	**Acetaldehyde**	**11**	**6.8**	0.12	**3.8**	0.067	
123-38-6	**Propionaldehyde**	**1.7**	**2.2**	0.26	**0.92**	0.11	
123-72-8	**Butyraldehyde**	**2.6**	**12**	0.92	**4.0**	0.31	
100-52-7	**Benzaldehyde**	**4.3**	**2.3**	0.11	**0.54**	0.025	
590-86-3	**Isovaleraldehyde**	**1.8**	**1.5**	0.17	**0.43**	0.047	
110-62-3	**Valeraldehyde**	**5.9**	**11**	0.37	**3.1**	0.11	
66-25-1	**n-Hexaldehyde**	**21**	**59**	0.56	**14**	0.14	

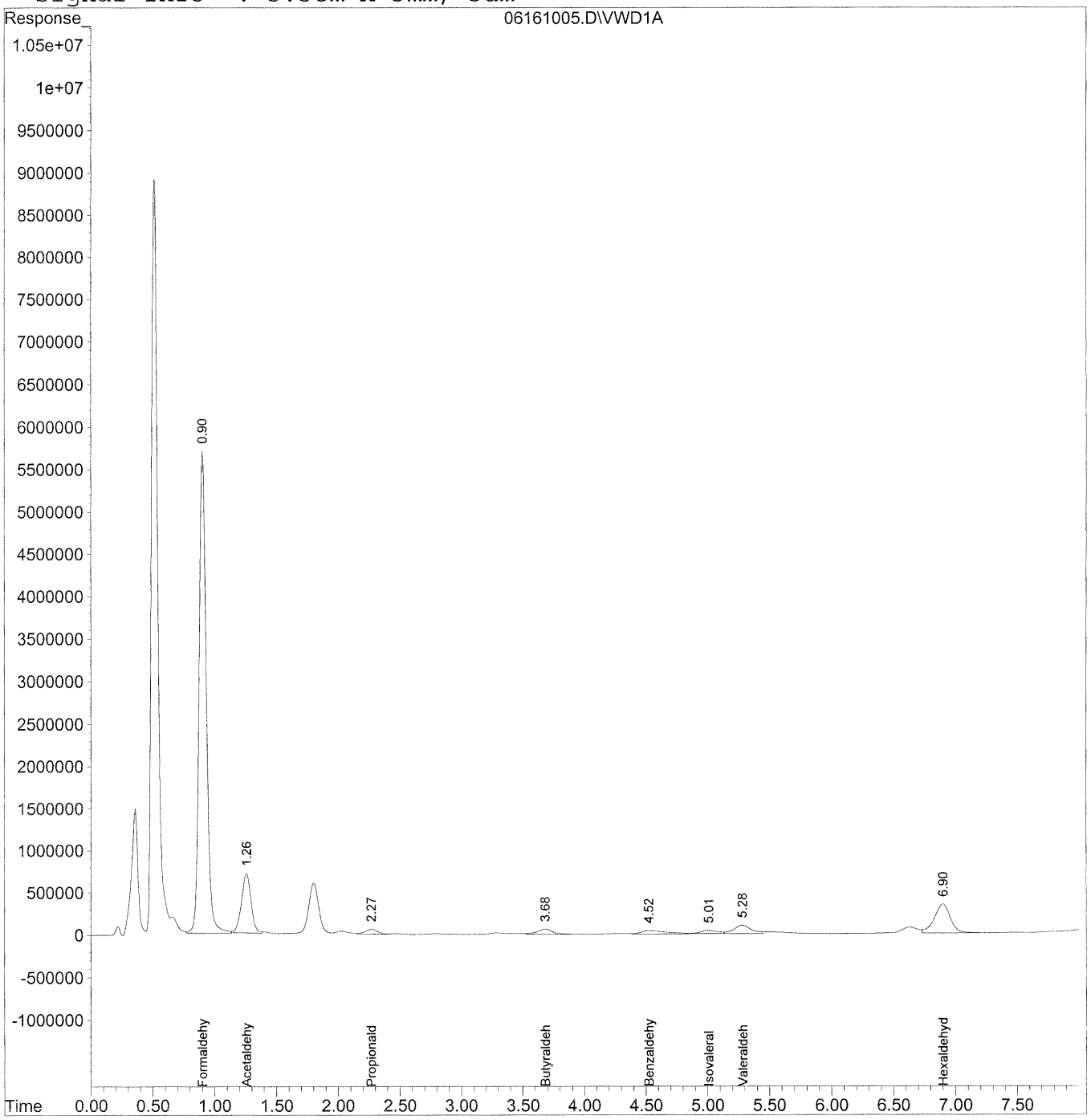
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: RO Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 14:20 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 14:20 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

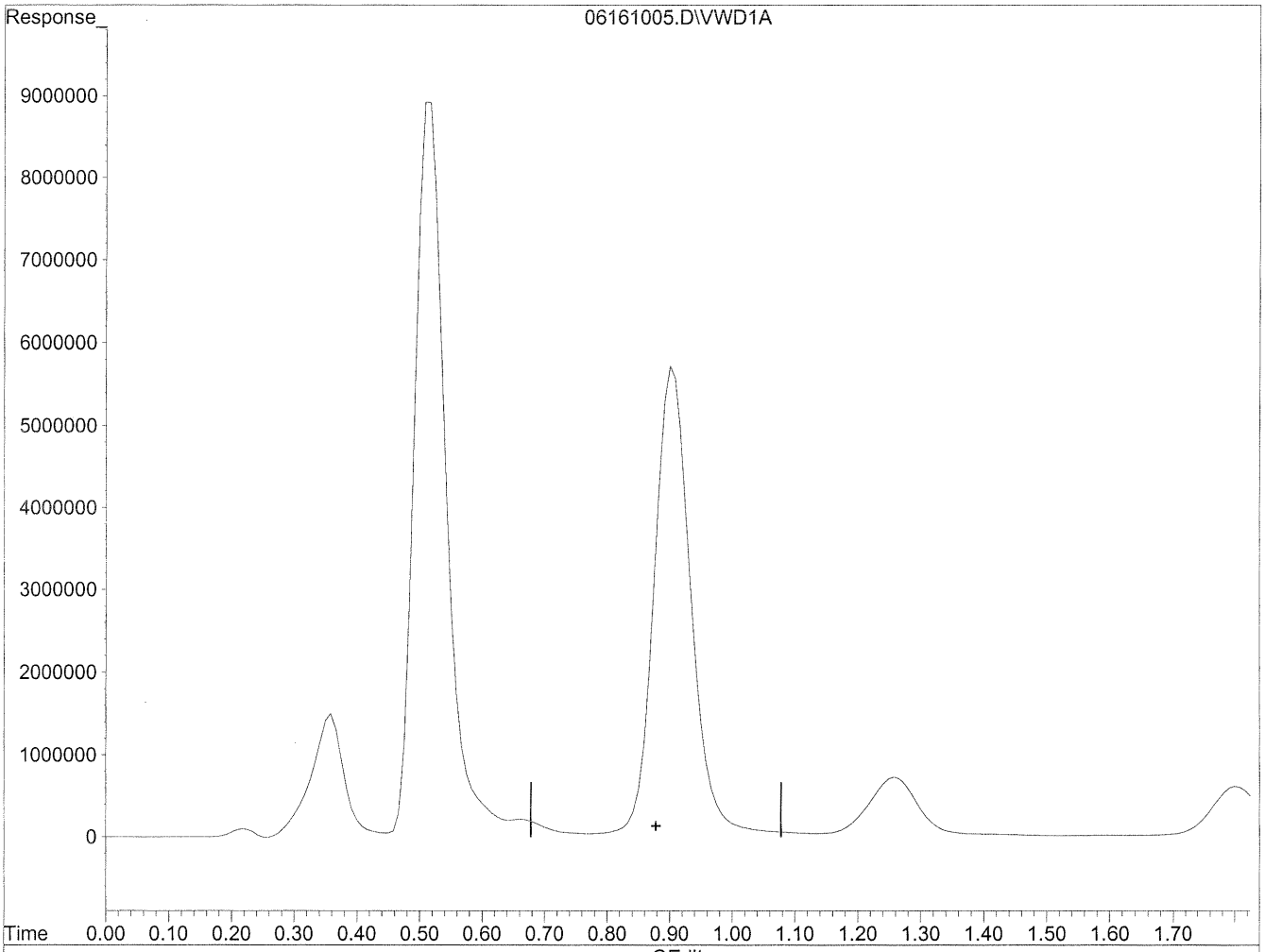
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	232915784	24956.489	ng/mlm
2)	Acetaldehyde	1.26	37957908	5635.728	ng/mlm
3)	Propionaldehyde	2.27	4085602	840.309	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.68	5195428	1289.411	ng/mlm
6)	Benzaldehyde	4.52	5776542	2134.146	ng/mlm
7)	Isovaleraldehyde	5.01	3214338	906.033	ng/mlm
8)	Valeraldehyde	5.28	9884796	2946.626	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.90	31019178	10787.879	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.88min 0.000ng/ml

response 0

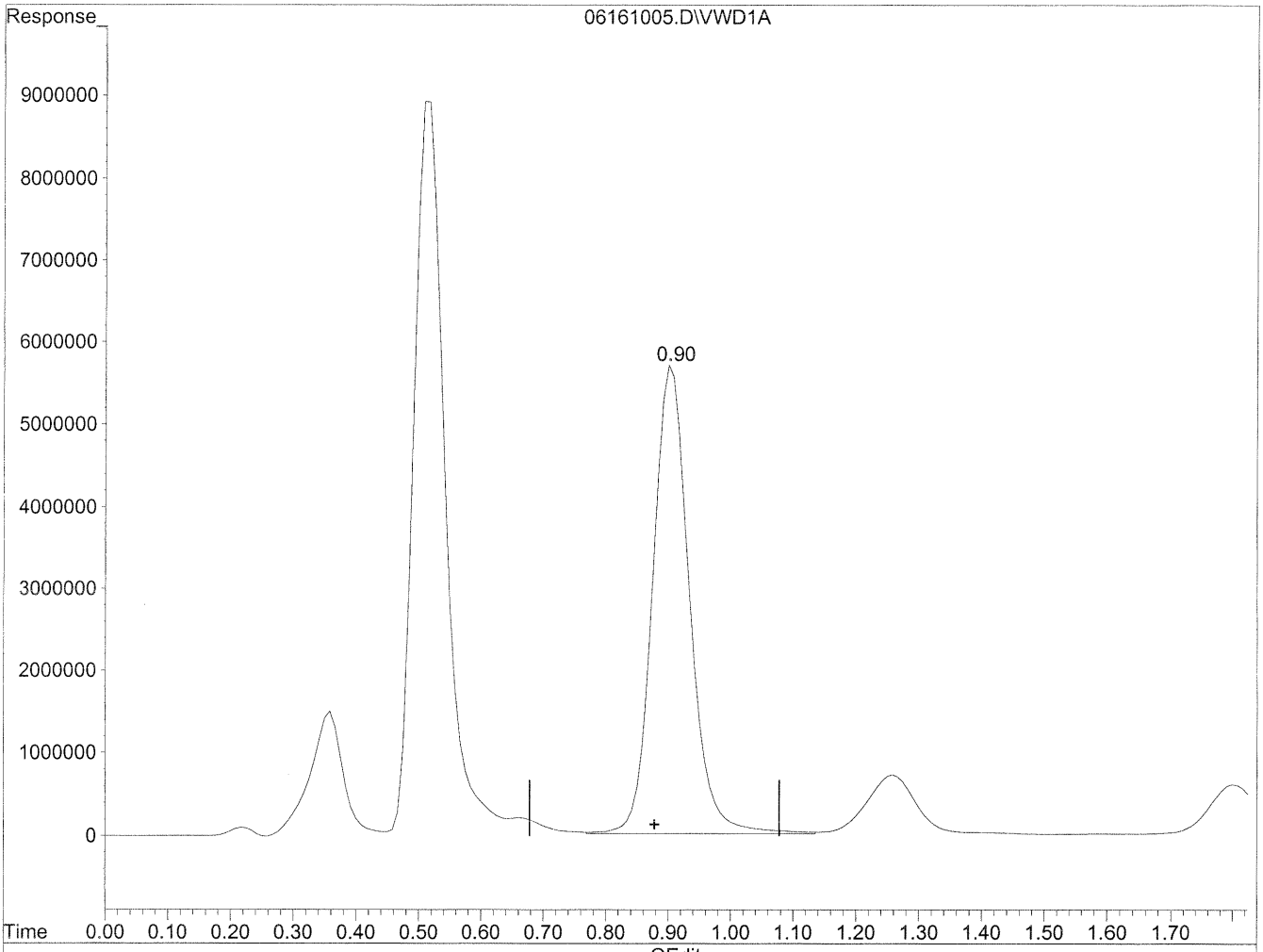
(+) = Expected Retention Time

06161005.D TO110510.M Wed Jun 16 14:17:03 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.90min 24956.489ng/ml m

response 232915784

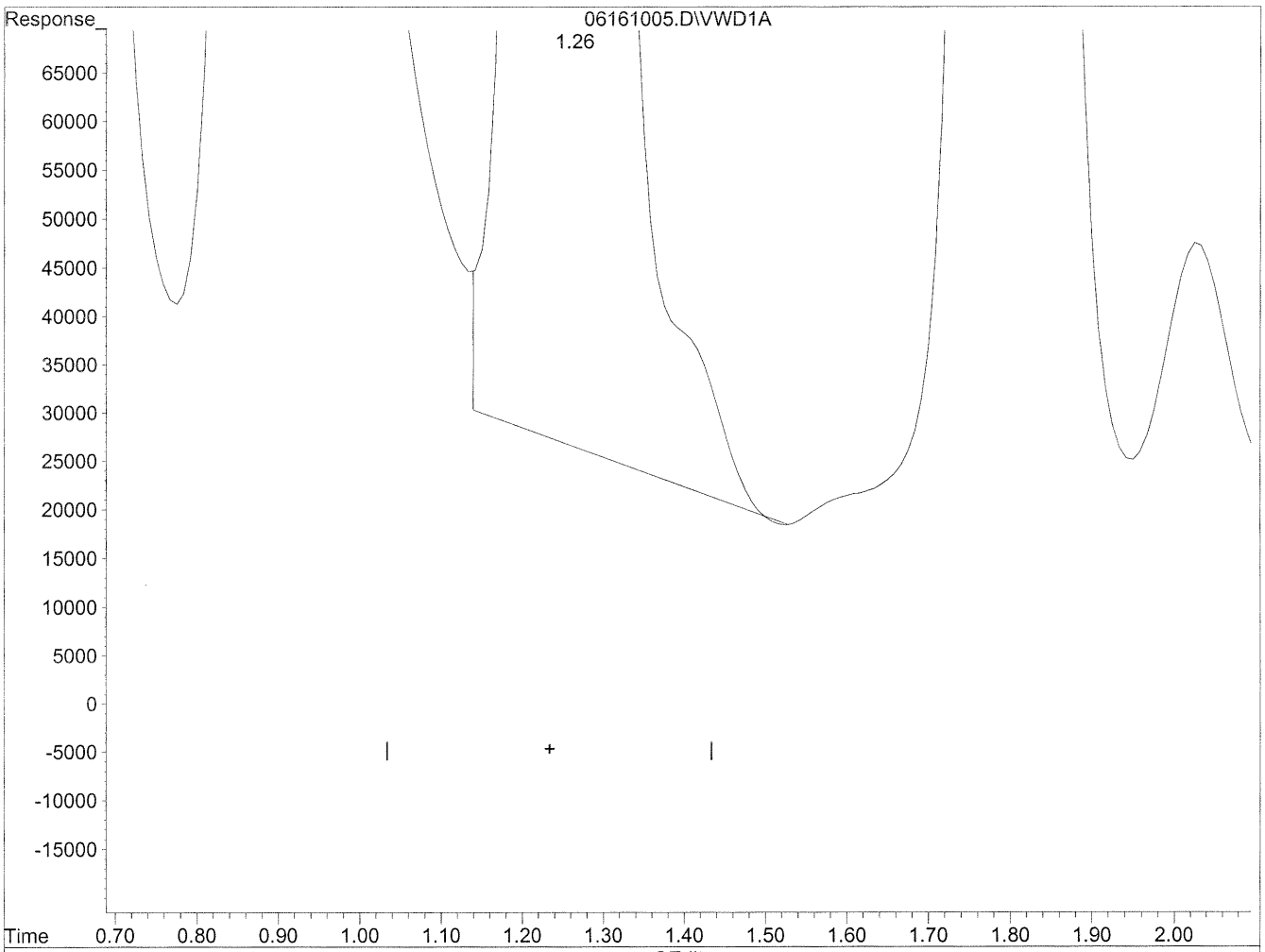
tlc 6/17/10 see dil BNL 6/21/10

(+) = Expected Retention Time

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.26min 5709.181ng/ml

response 38452634

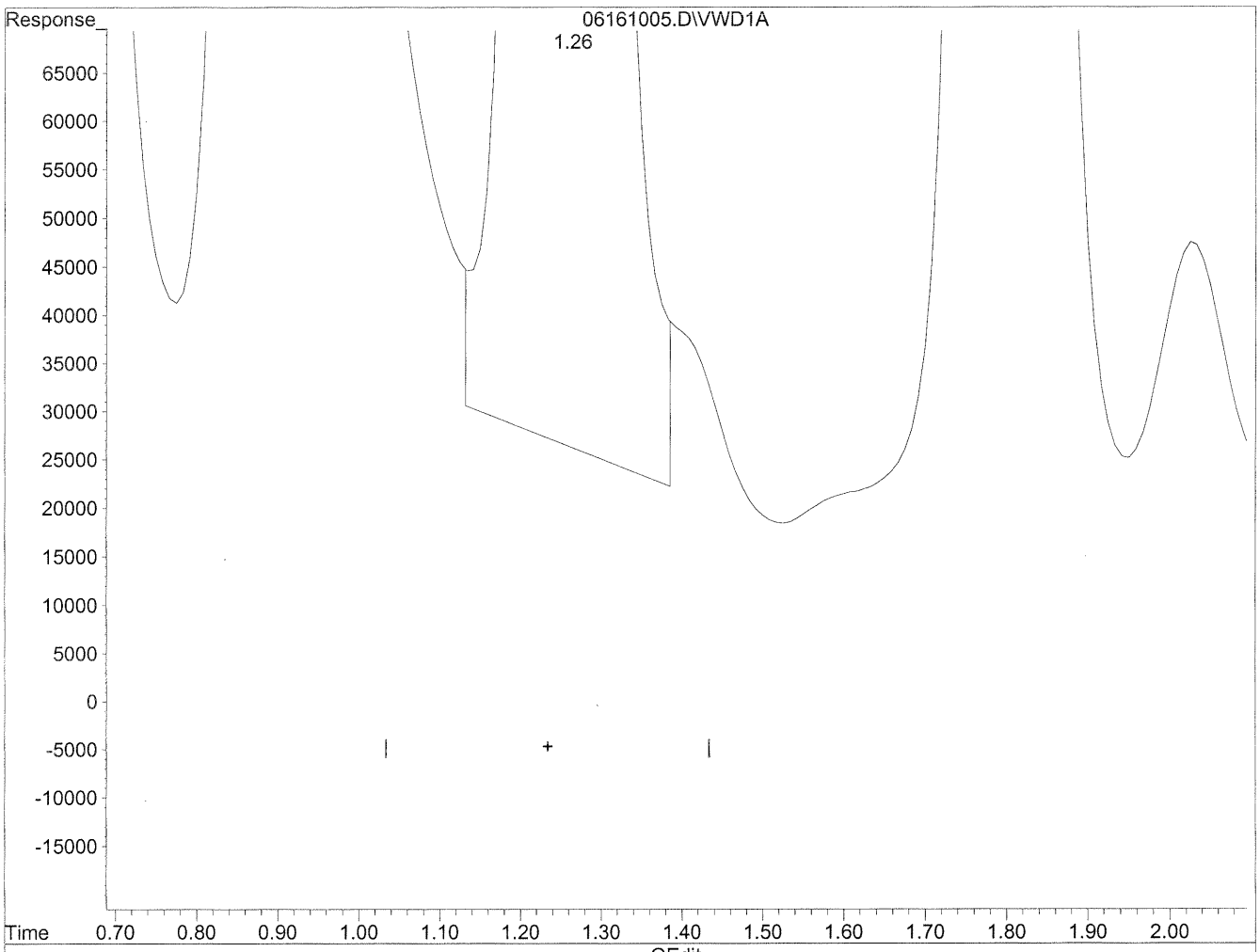
(+) = Expected Retention Time

06161005.D TO110510.M Wed Jun 16 14:17:21 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.26min 5635.728ng/ml m

response 37957908

6/17/10

6/21/10

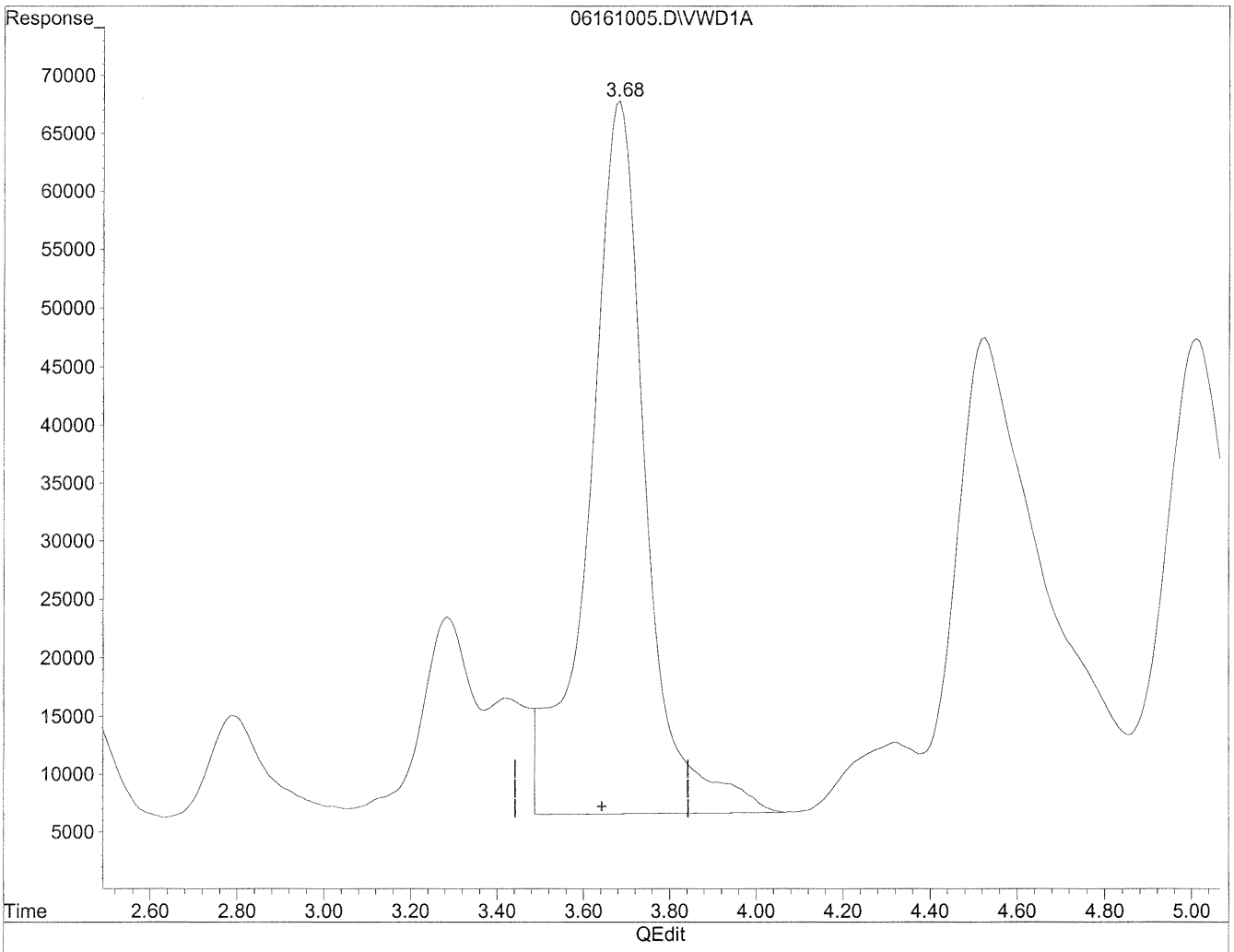
(+) = Expected Retention Time

06161005.D TO110510.M Wed Jun 16 14:17:45 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.68min 1391.629ng/ml

response 5607296

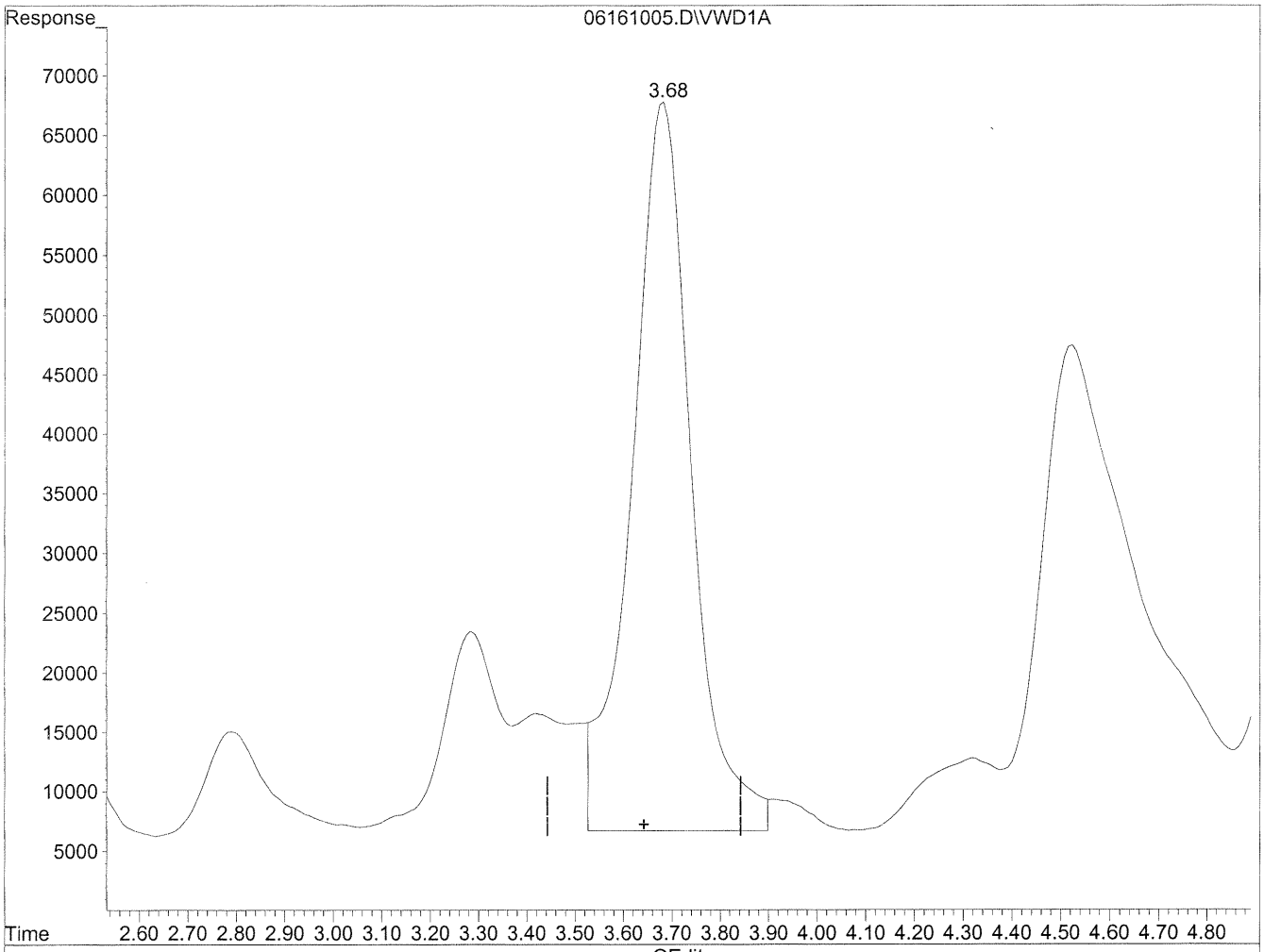
(+) = Expected Retention Time

06161005.D TO110510.M Wed Jun 16 14:17:56 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.68min 1289.411ng/ml m

response 5195428

HC 6/17/10 BC, SH

6/21/10

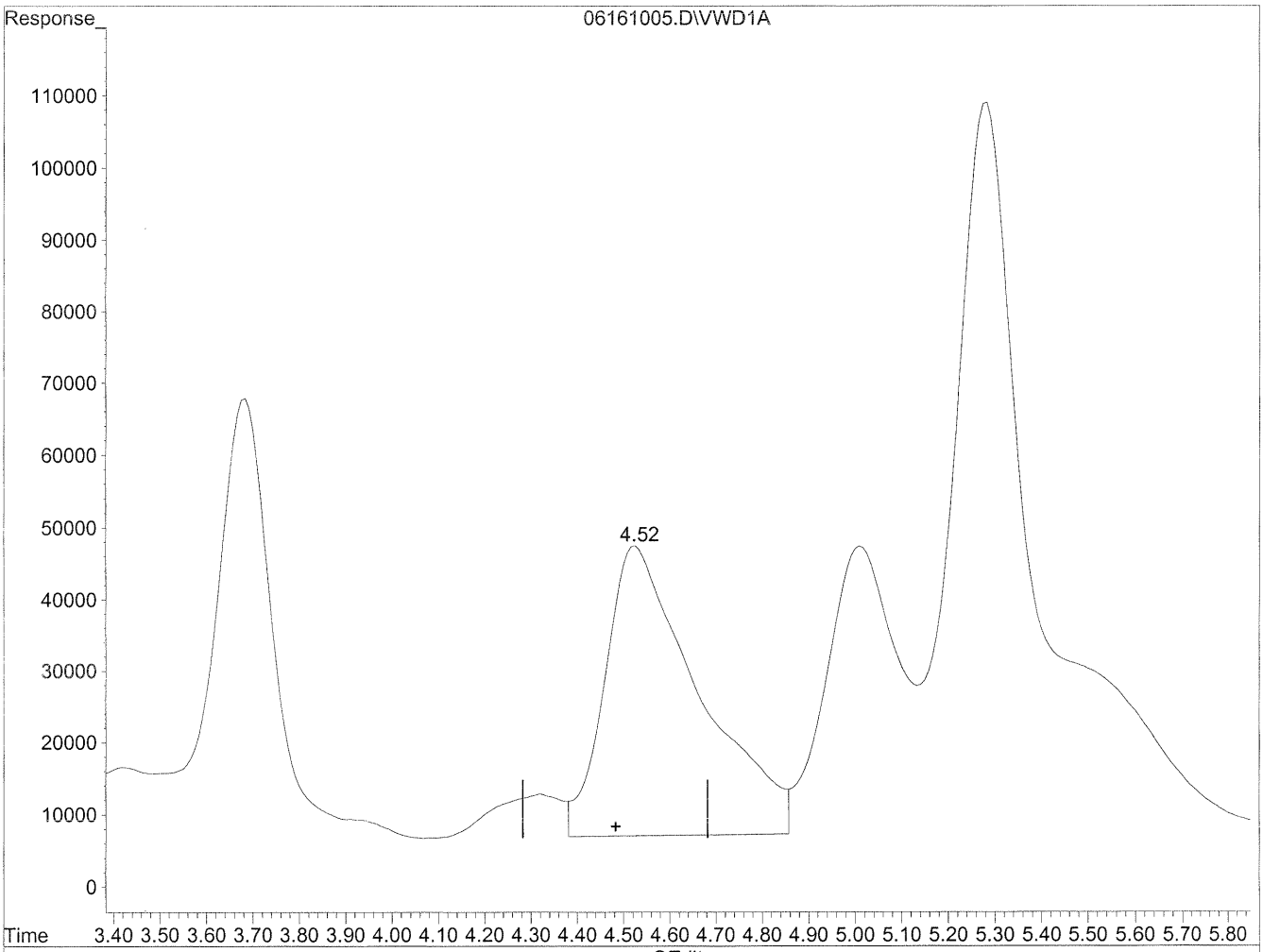
(+) = Expected Retention Time

06161005.D TO110510.M Wed Jun 16 14:18:39 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.53min 2099.545ng/ml

response 5682888

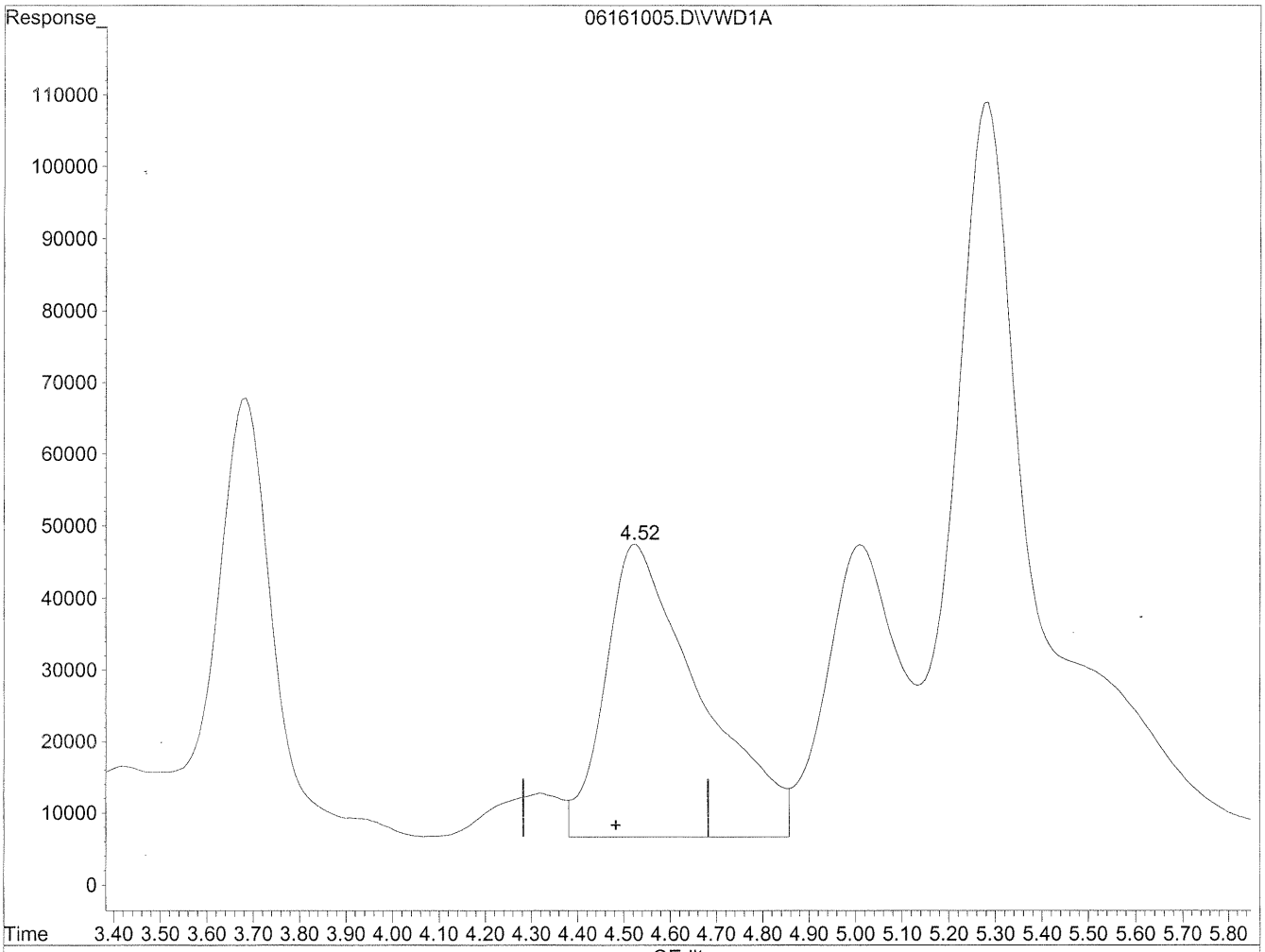
(+) = Expected Retention Time

06161005.D TO110510.M Wed Jun 16 14:18:42 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.52min 2134.146ng/ml m

response 5776542

HC 6/17/10
BC [illegible]

6/21/10

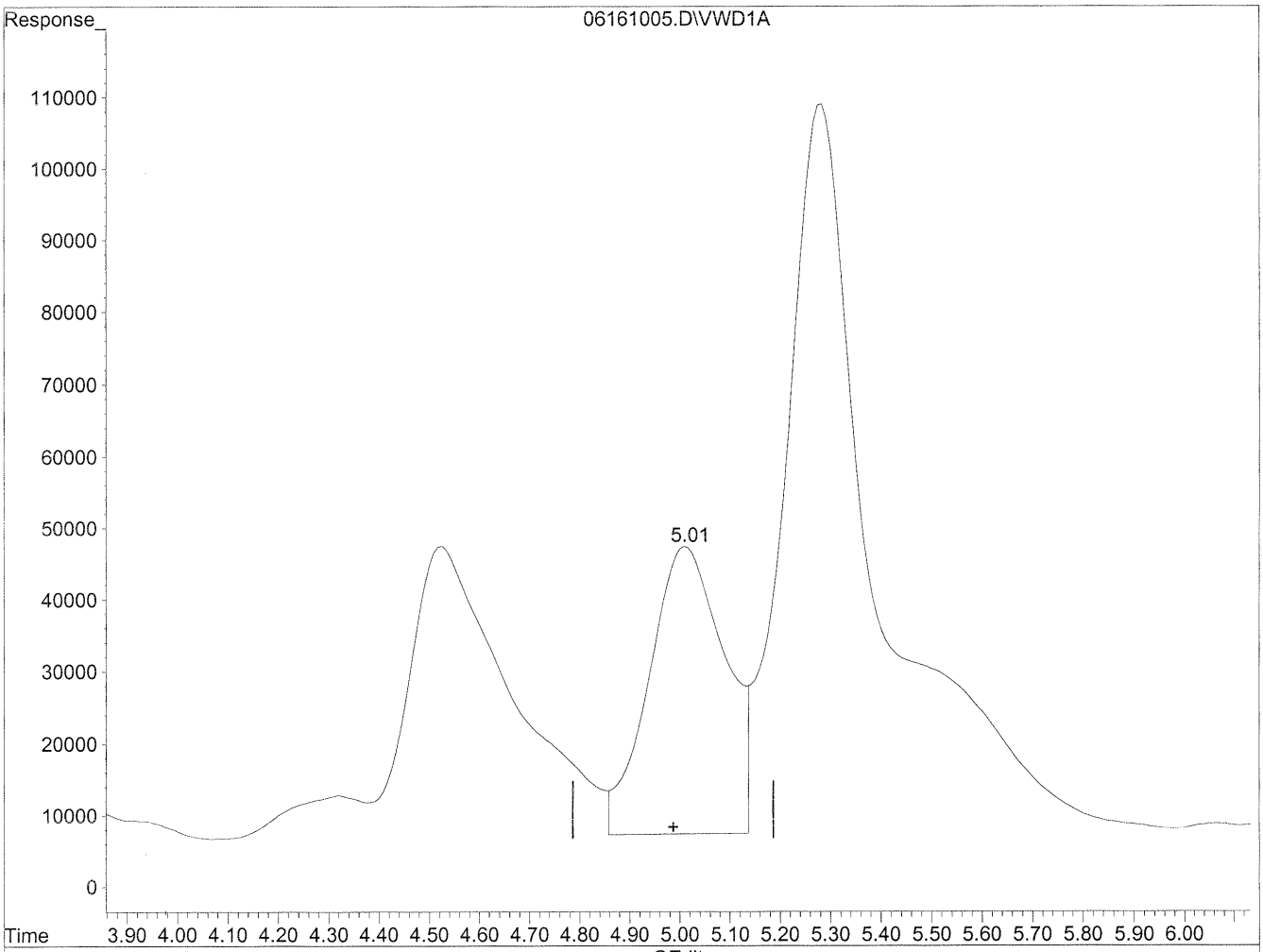
(+) = Expected Retention Time

06161005.D TO110510.M Wed Jun 16 14:18:58 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.01min 1174.745ng/ml

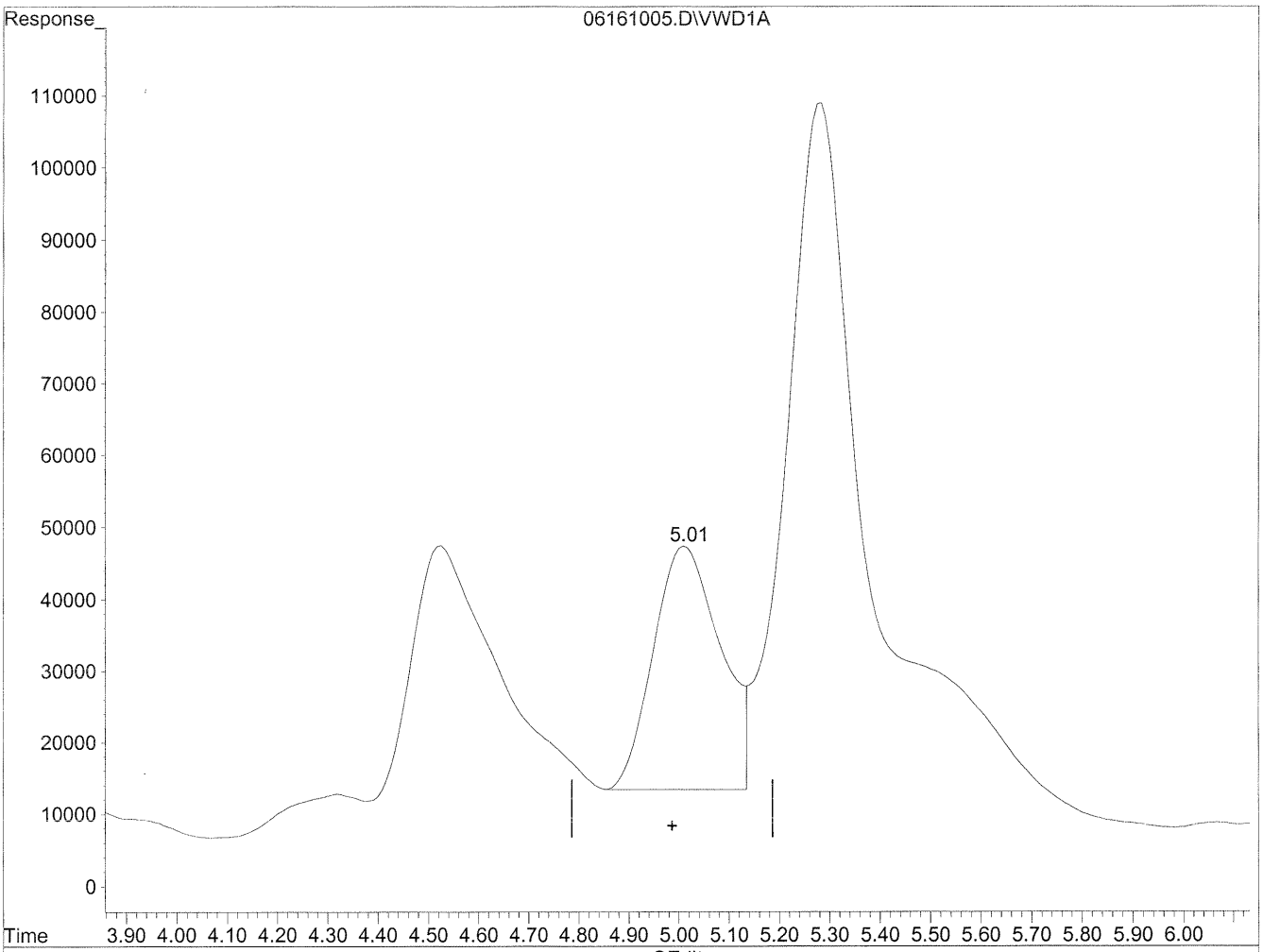
response 4167651

(+) = Expected Retention Time

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.01min 906.033ng/ml m

response 3214338

tlc BC 6/17/10

6/21/10

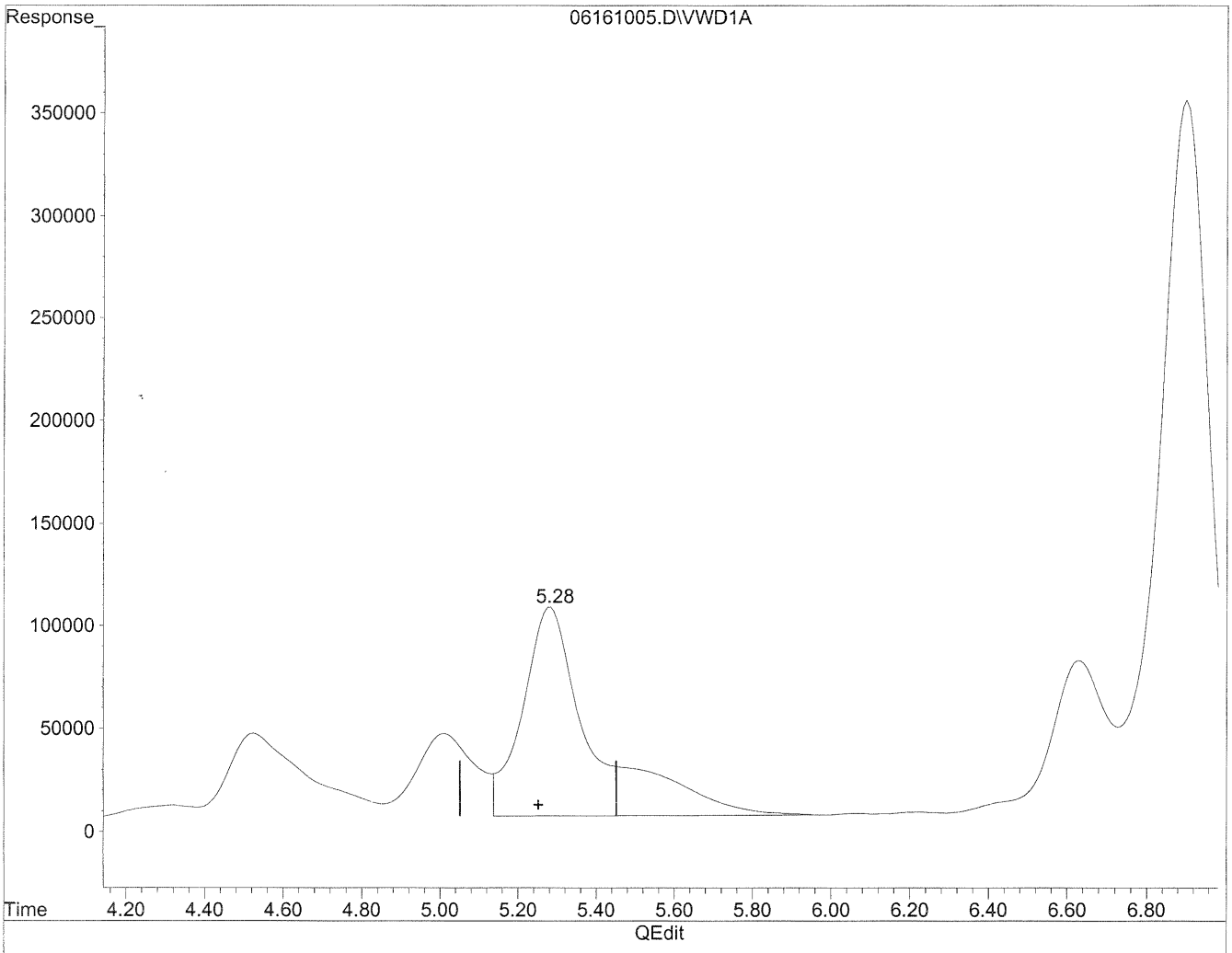
(+) = Expected Retention Time

06161005.D TO110510.M Wed Jun 16 14:19:15 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.28min 3882.382ng/ml

response 13023896

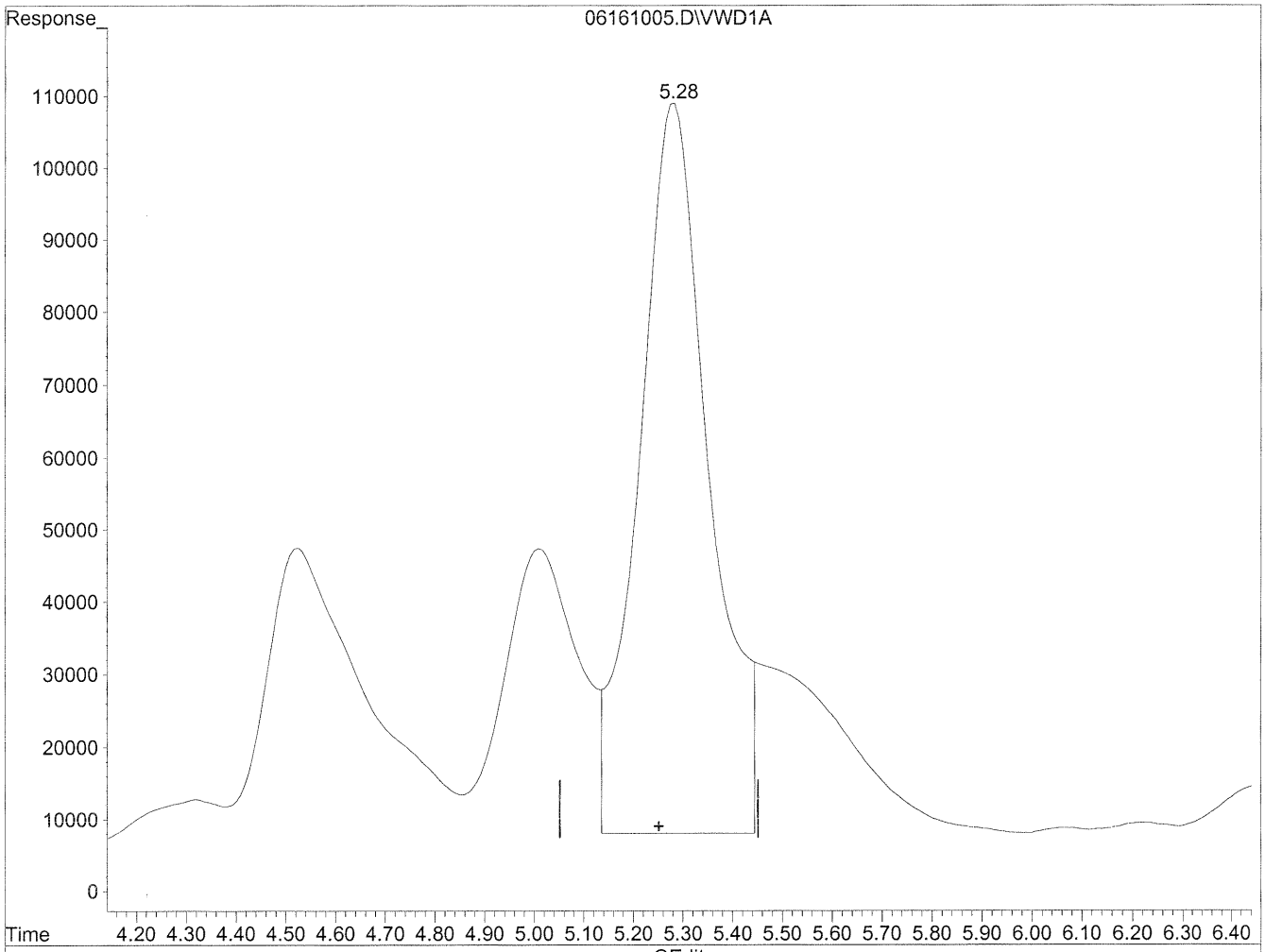
(+) = Expected Retention Time

06161005.D TO110510.M Wed Jun 16 14:19:18 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161005.D Vial: 102
Acq On : 16-Jun-2010, 10:06:23 Operator: HC/SM
Sample : P1001953-002 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.28min 2946.626ng/ml m

response 9884796

HC 6/17/10 SH 6/21/10

(+) = Expected Retention Time

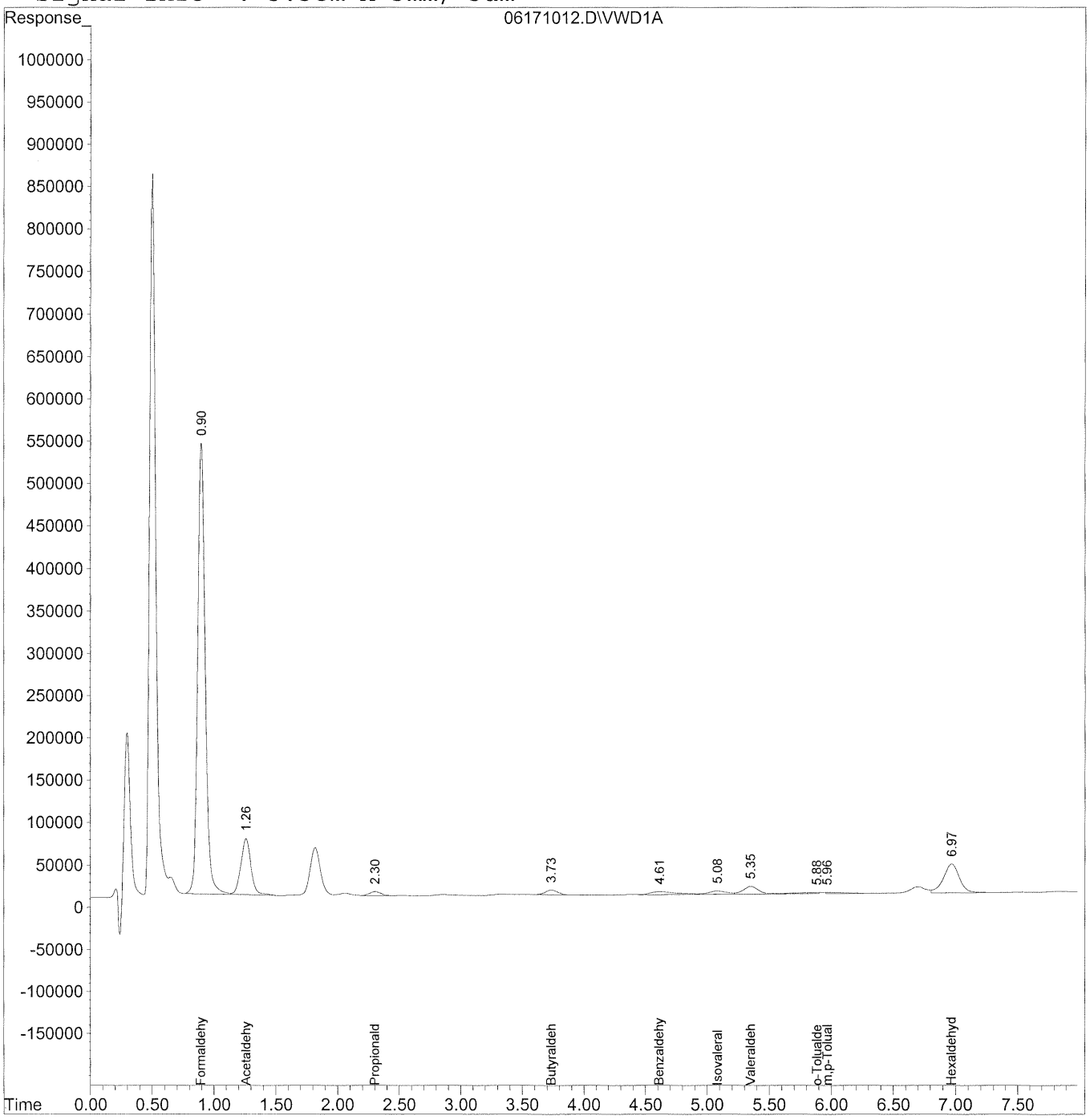
06161005.D TO110510.M Wed Jun 16 14:20:35 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171012.D Vial: 108
Acq On : 17-Jun-2010, 11:28:50 Operator: HC/SM
Sample : P1001953-002 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:50 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171012.D Vial: 108
Acq On : 17-Jun-2010, 11:28:50 Operator: HC/SM
Sample : P1001953-002 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:50 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

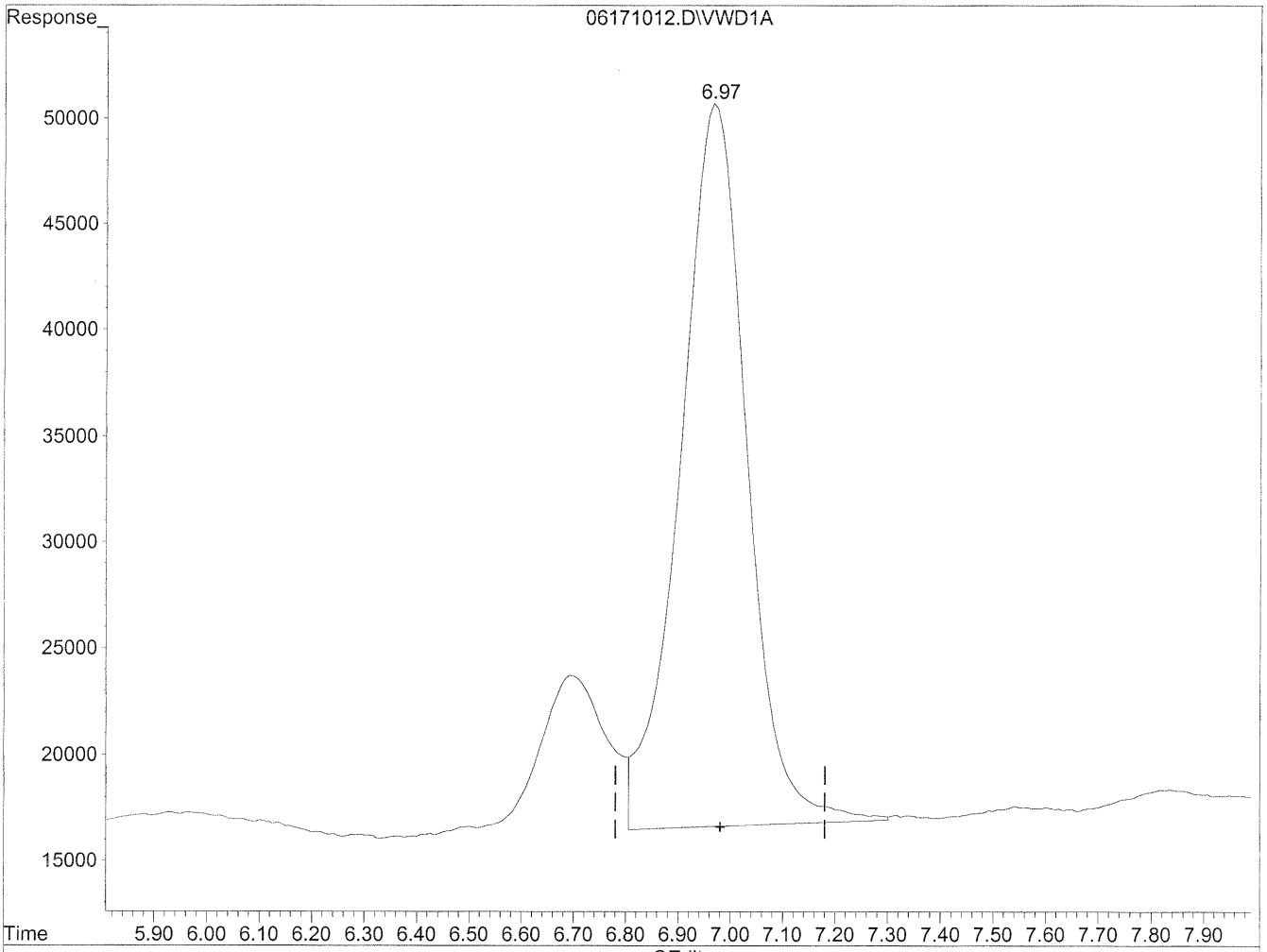
Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	22831194	2446.320	ng/ml
2)	Acetaldehyde	1.26	3789517	562.641	ng/ml
3)	Propionaldehyde	2.31	306191	62.976	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.74	422309	104.809	ng/ml
6)	Benzaldehyde	4.62	546243	201.810	ng/ml
7)	Isovaleraldehyde	5.09	421487	118.806	ng/ml
8)	Valeraldehyde	5.35	803761	239.599	ng/ml
9)	o-Tolualdehyde	5.88	223565	109.831	ng/ml
10)	m,p-Tolualdehyde	5.97	175510	74.921	ng/ml
11)	Hexaldehyde	6.97	3015327	1048.673	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171012.D Vial: 108
Acq On : 17-Jun-2010, 11:28:50 Operator: HC/SM
Sample : P1001953-002 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.97min 1048.673ng/ml

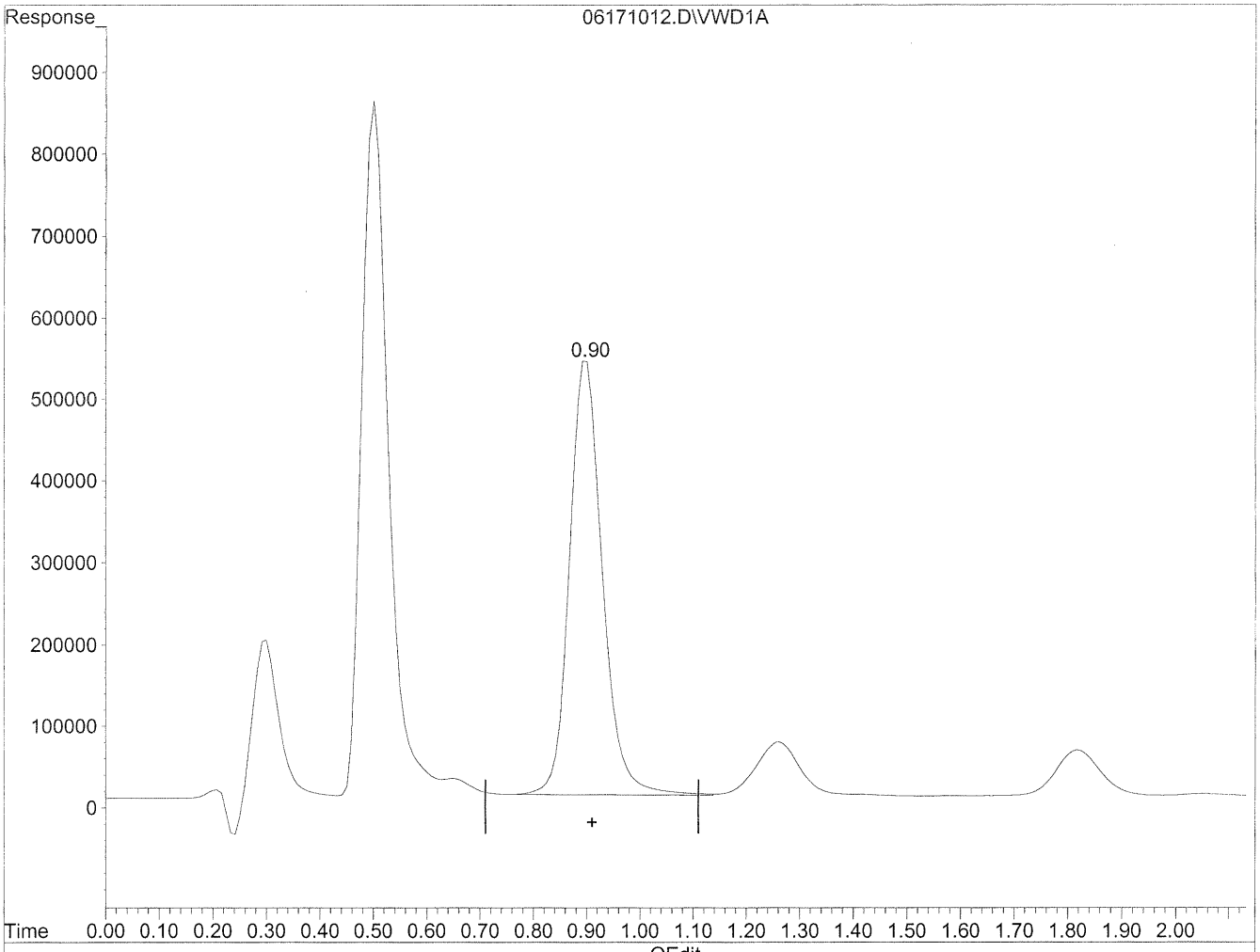
response 3015327

(+) = Expected Retention Time

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171012.D Vial: 108
Acq On : 17-Jun-2010, 11:28:50 Operator: HC/SM
Sample : P1001953-002 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.90min 2446.320ng/ml

response 22831194

(+) = Expected Retention Time

06171012.D TO110510.M Fri Jun 18 08:19:01 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111000**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-003

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 19790 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**3.8**	**1.9**	0.10	**1.6**	0.083	
75-07-0	**Acetaldehyde**	**1.2**	**0.72**	0.12	**0.40**	0.067	
123-38-6	Propionaldehyde	< 0.20	ND	0.26	ND	0.11	
123-72-8	**Butyraldehyde**	**0.38**	**1.7**	0.92	**0.59**	0.31	
100-52-7	Benzaldehyde	< 0.20	ND	0.11	ND	0.025	
590-86-3	**Isovaleraldehyde**	**0.33**	**0.27**	0.17	**0.077**	0.047	
110-62-3	**Valeraldehyde**	**0.29**	**0.54**	0.37	**0.15**	0.11	
66-25-1	**n-Hexaldehyde**	**0.41**	**1.2**	0.56	**0.28**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

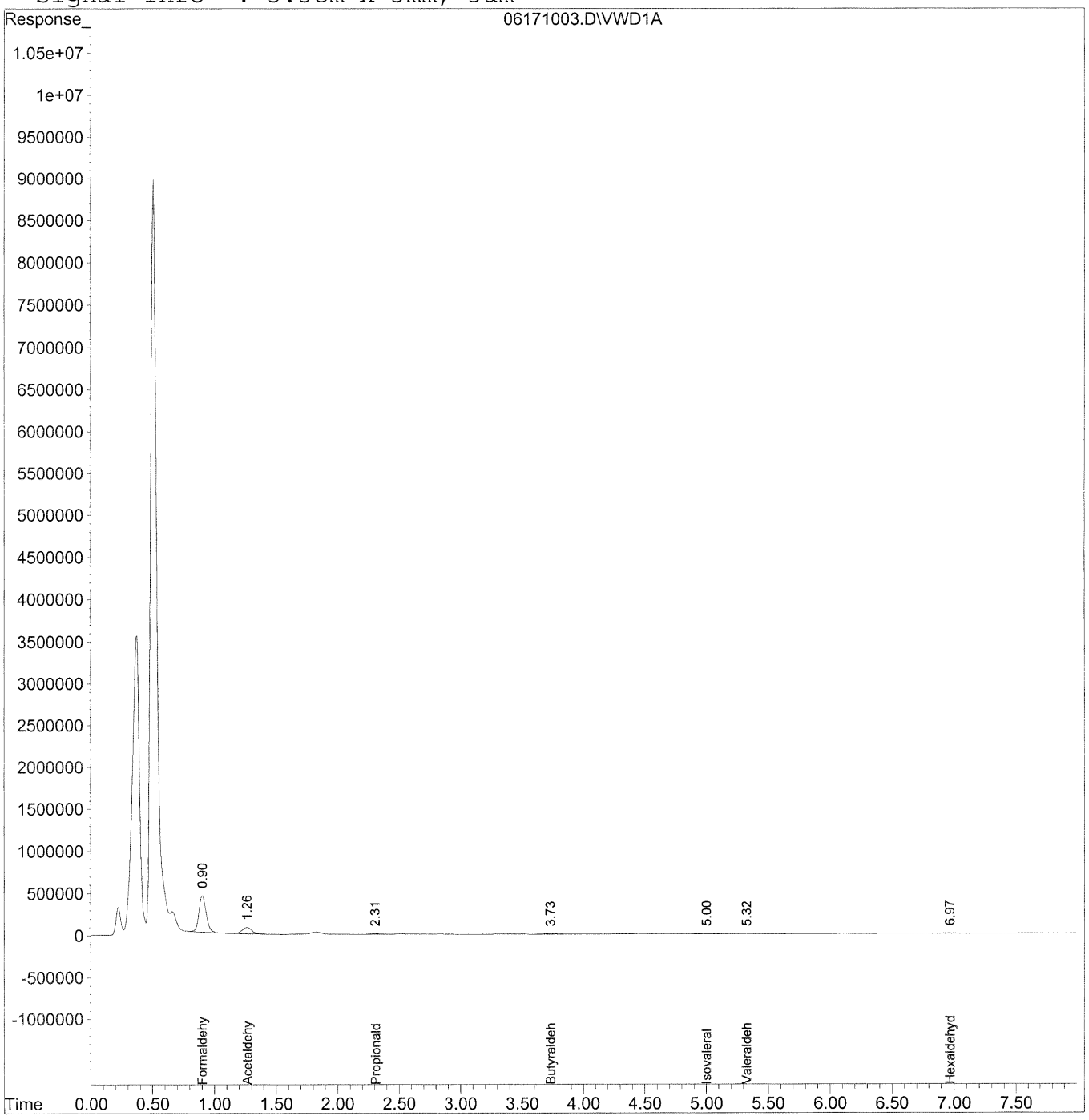
Verified By: _____ Date: 6/24/10

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:54 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 15:05:43 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:54 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 15:05:43 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

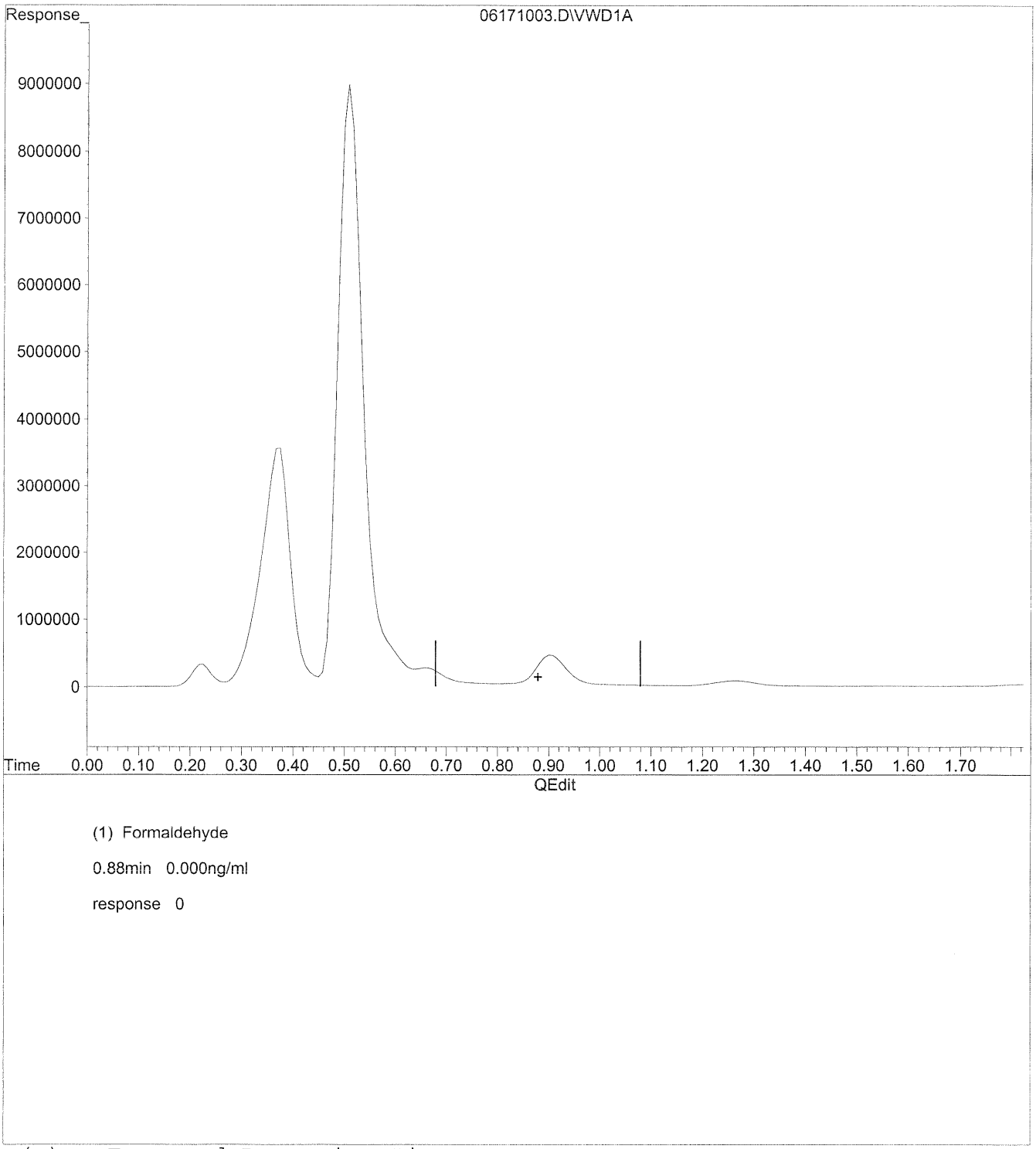
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	17817087	1909.067	ng/mlm
2)	Acetaldehyde	1.26	4039838	599.807	ng/mlm
3)	Propionaldehyde	2.31	482597	99.259	ng/mlm
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.73	766046	190.119	ng/mlm
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	5.00	583458	164.461	ng/mlm
8)	Valeraldehyde	5.32	480043	143.099	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.97	592403	206.027	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/mld

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003R 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:07 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



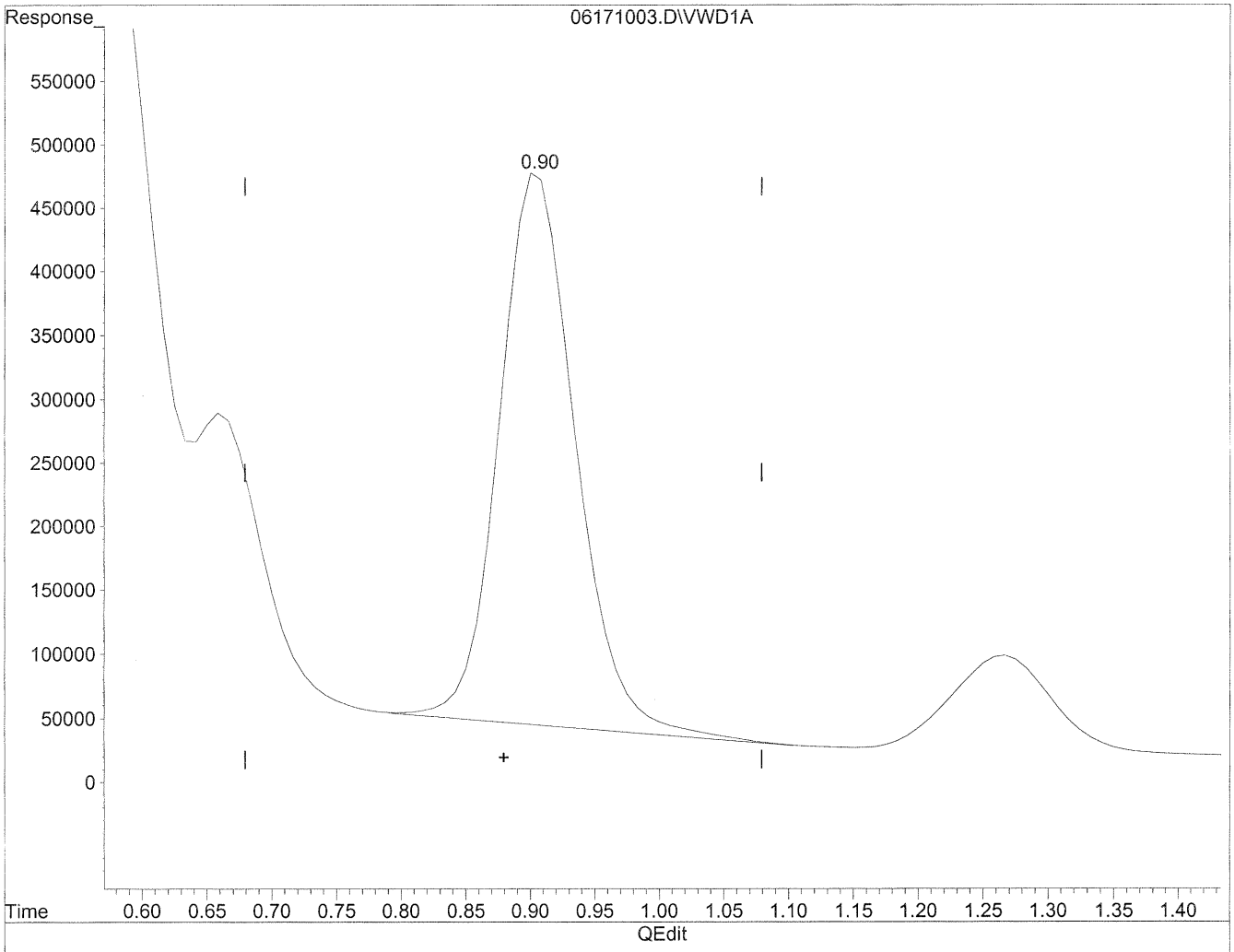
(+) = Expected Retention Time

06171003.D TO110510.M Thu Jun 17 13:47:36 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003R 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:07 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.90min 1909.067ng/ml m

response 17817087

HC 6/17/10

6/21/10

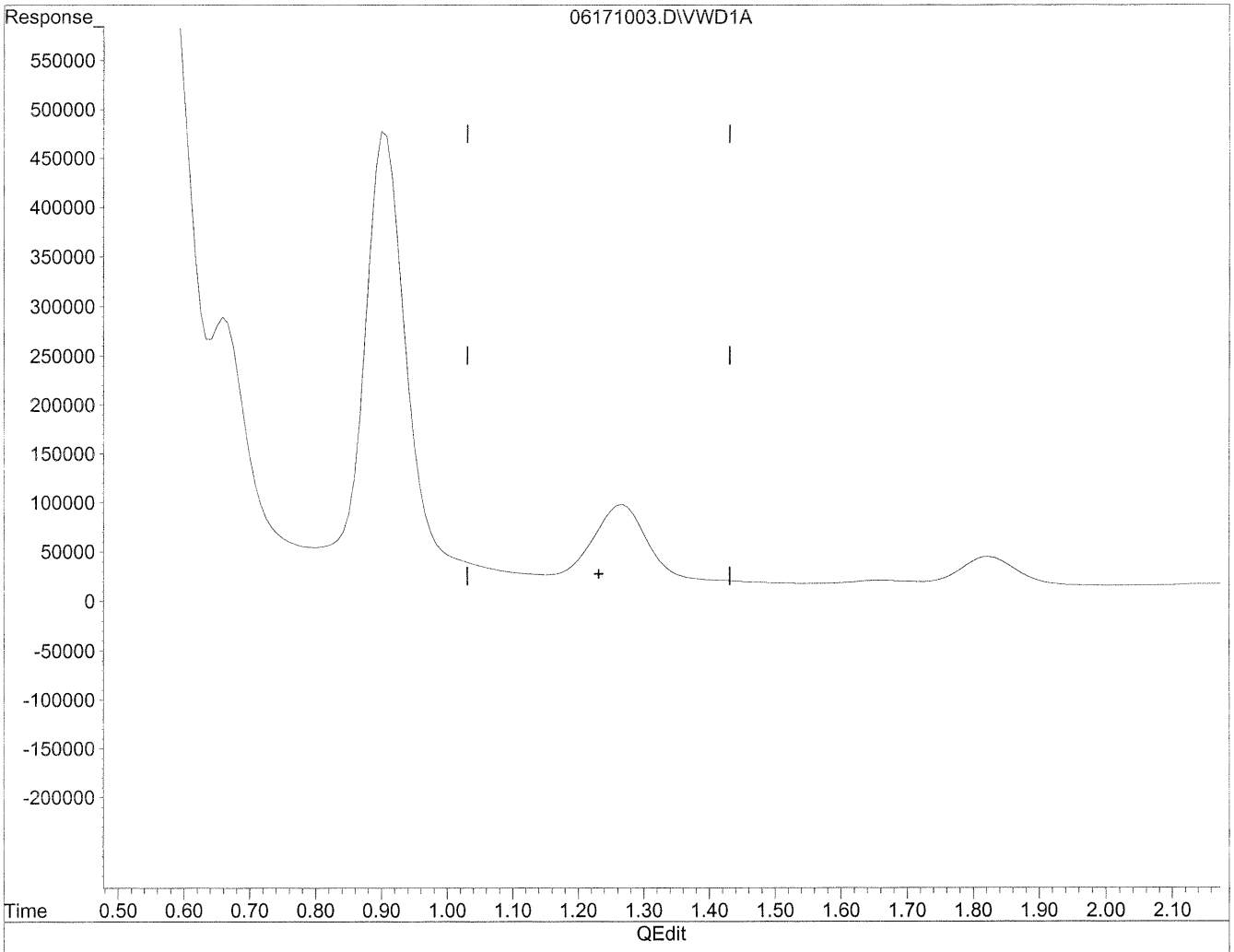
(+) = Expected Retention Time

06171003.D TO110510.M Thu Jun 17 13:50:21 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003R 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:07 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.23min 0.000ng/ml

response 0

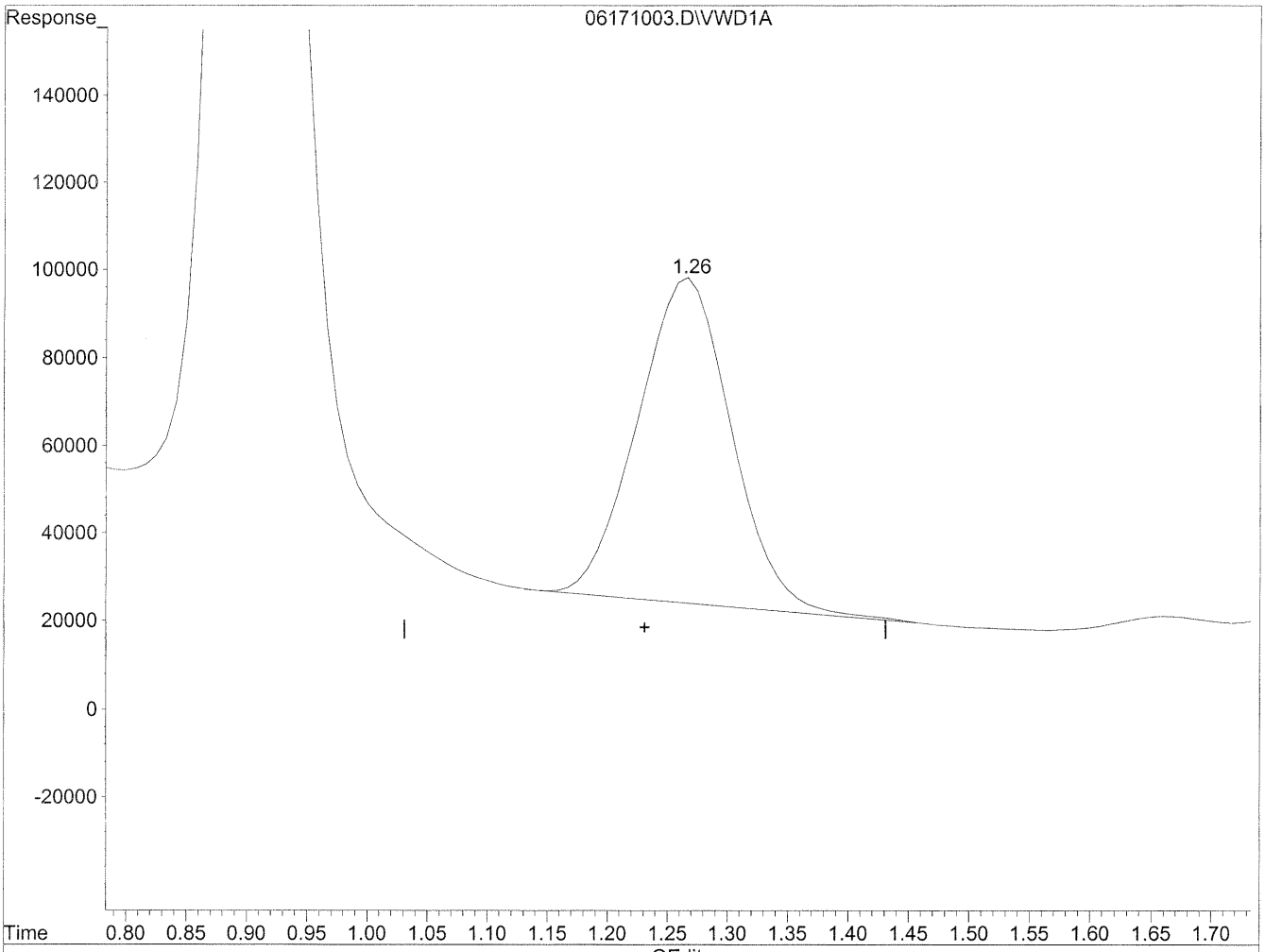
(+) = Expected Retention Time

06171003.D TO110510.M Thu Jun 17 13:50:27 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003R 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:07 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



QEdit

(2) Acetaldehyde

1.26min 599.807ng/ml m

response 4039838

6/21/10

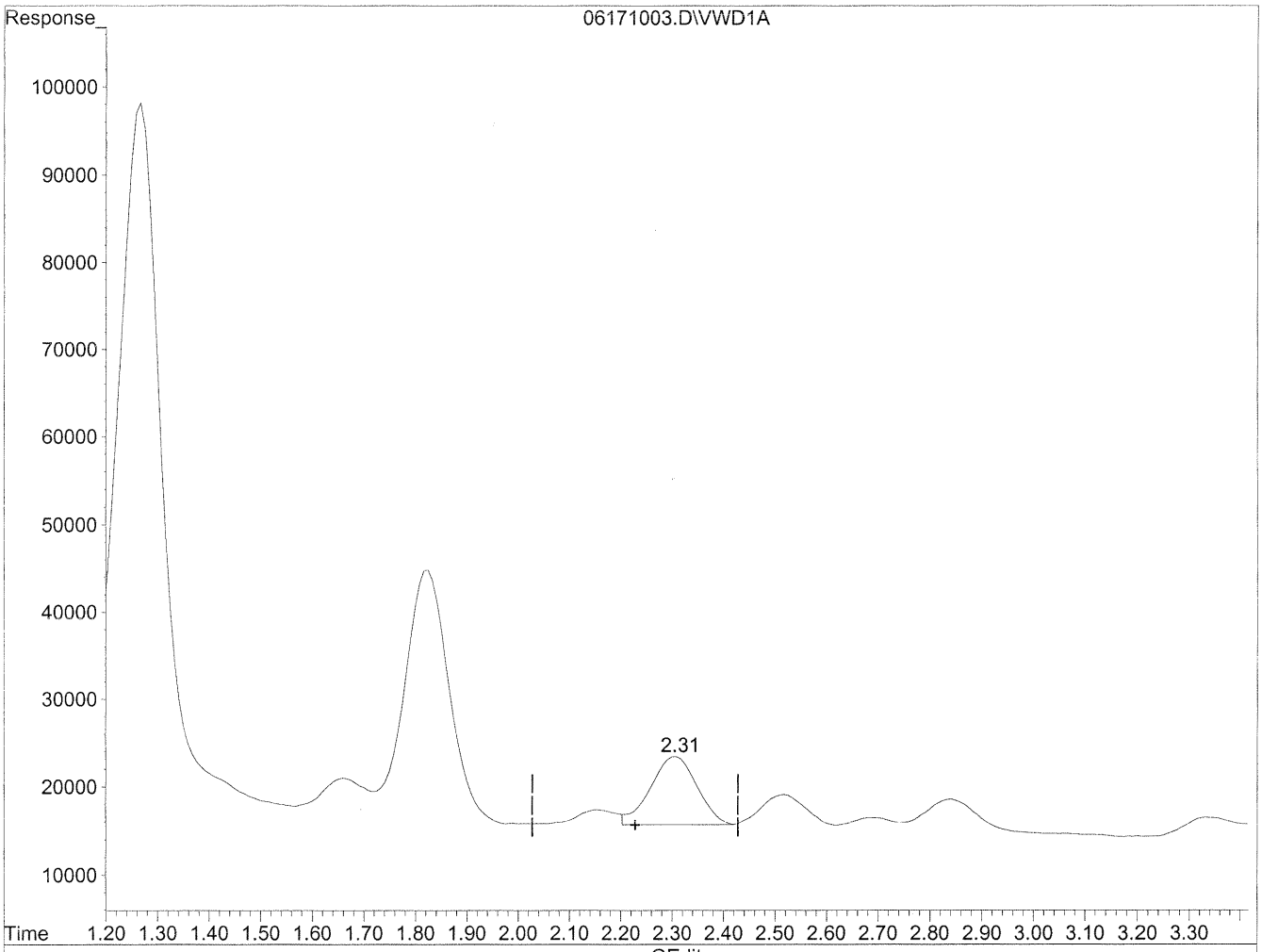
(+) = Expected Retention Time

06171003.D TO110510.M Thu Jun 17 13:50:46 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003R 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:51 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(3) Propionaldehyde

2.31min 99.259ng/ml m

response 482597

6/21/10

HC 6/17/10 BC no before

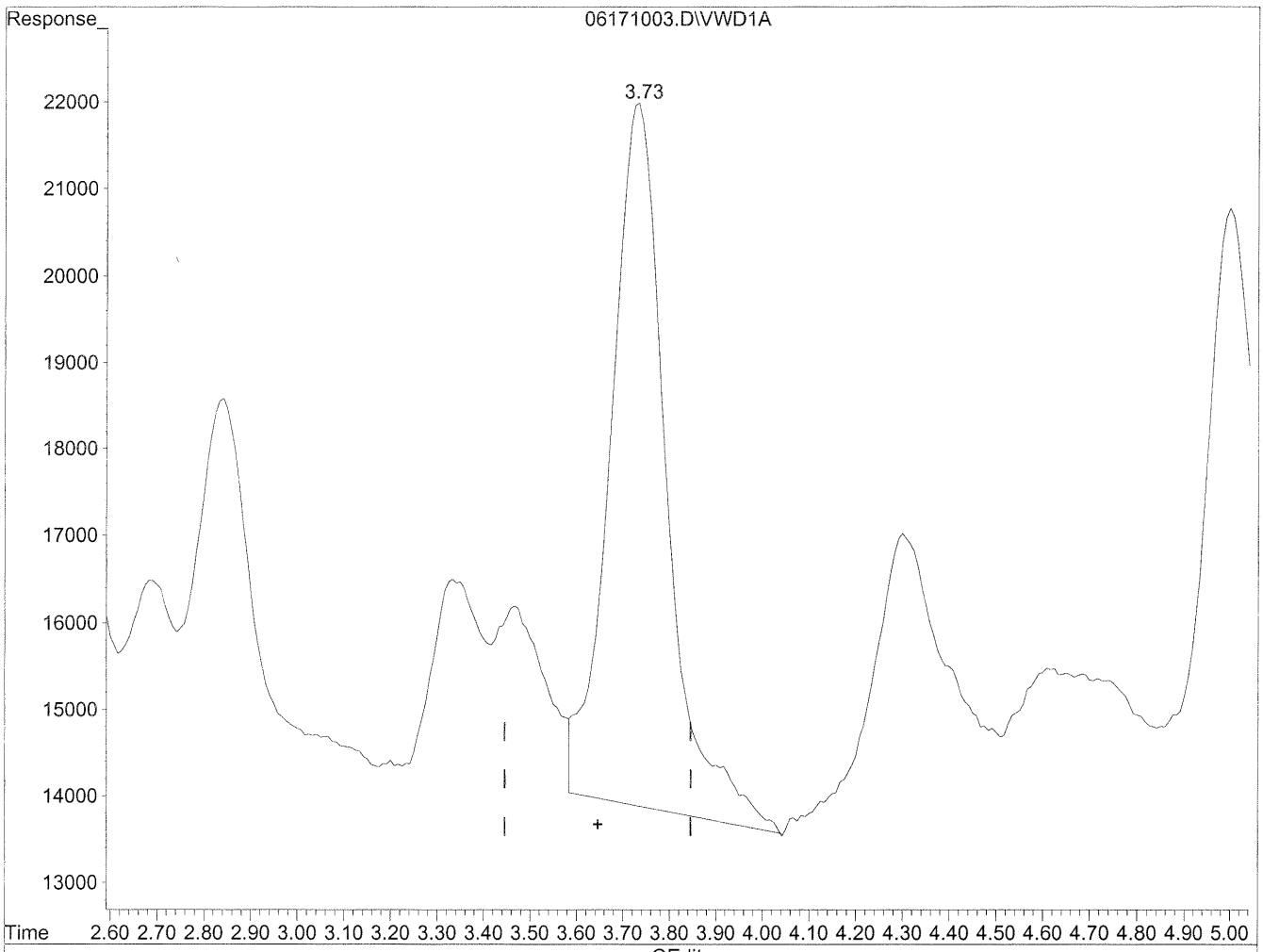
(+) = Expected Retention Time

06171003.D TO110510.M Thu Jun 17 13:52:00 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003R 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:51 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.73min 170.706ng/ml

response 687826

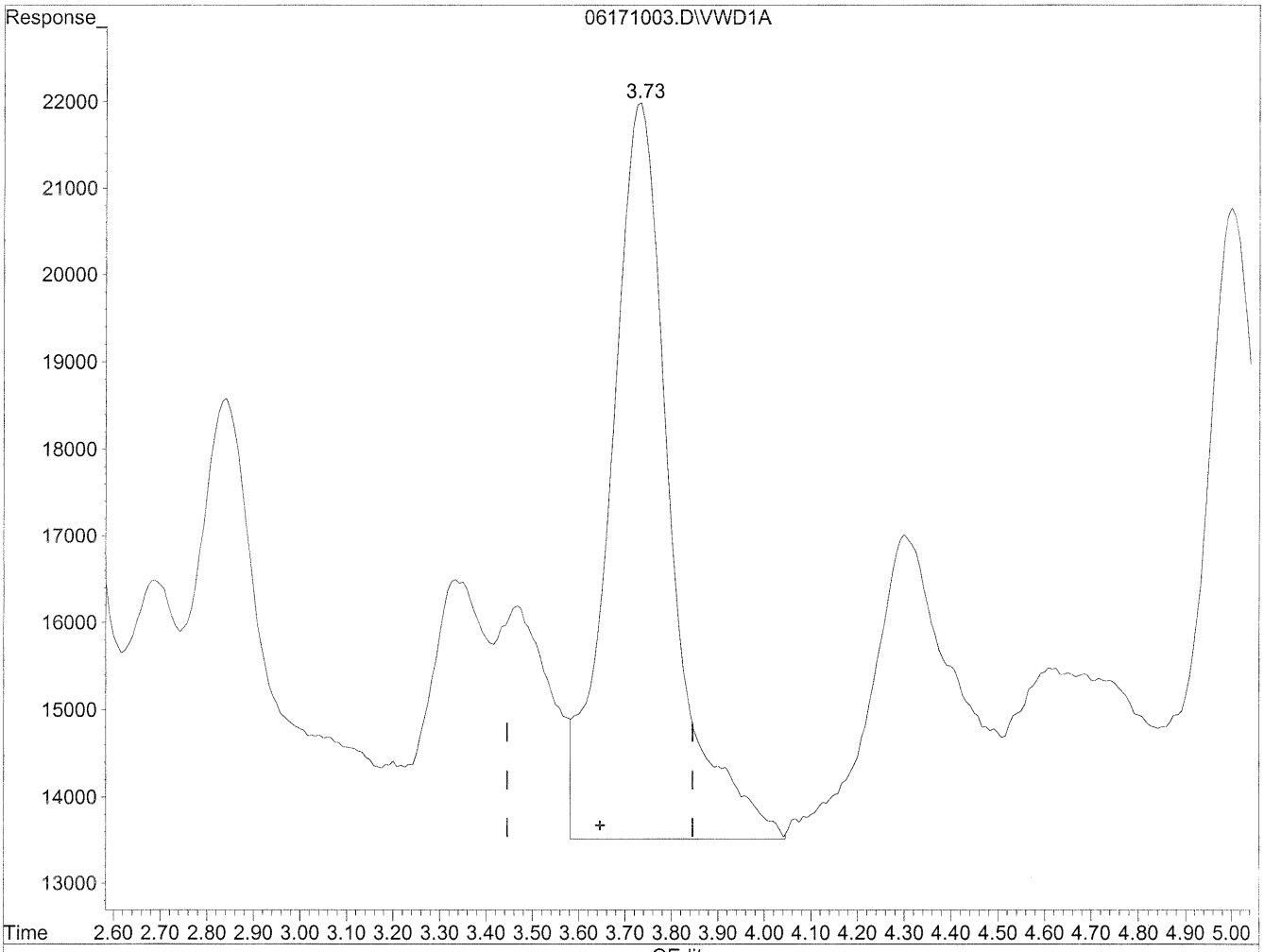
(+) = Expected Retention Time

06171003.D TO110510.M Thu Jun 17 13:52:16 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:54 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.73min 190.119ng/ml m

response 766046

6/21/10

6/17/10
BC
no bfore

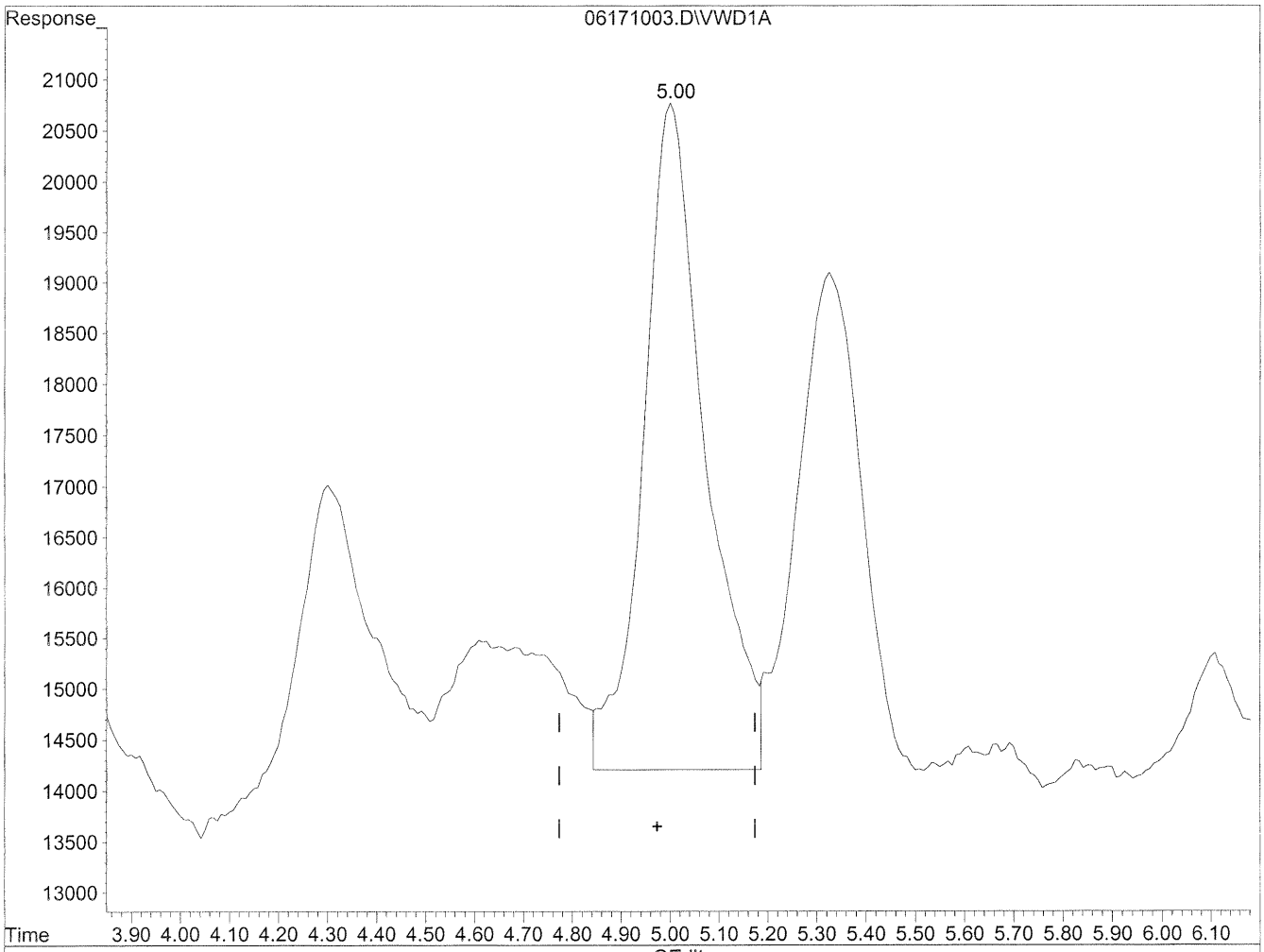
(+) = Expected Retention Time

06171003.D TO110510.M Thu Jun 17 16:25:21 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:54 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.00min 164.461ng/ml m

response 583458

6/21/10

tll 6/17/10 no before IC

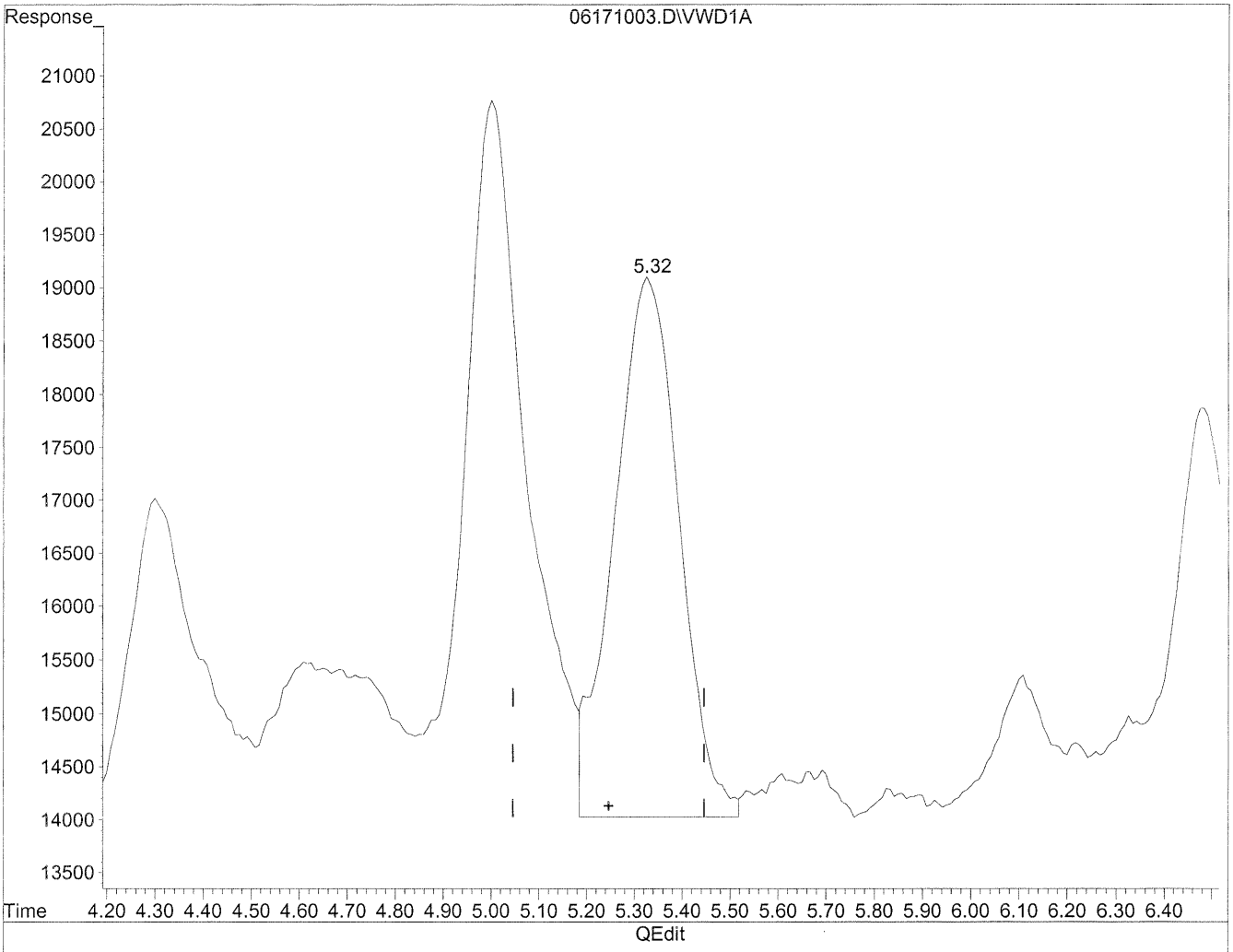
(+) = Expected Retention Time

06171003.D TO110510.M Thu Jun 17 16:25:36 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:54 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.32min 143.099ng/ml m

response 480043

HC 6/21/10

HC 6/17/10 no before IC

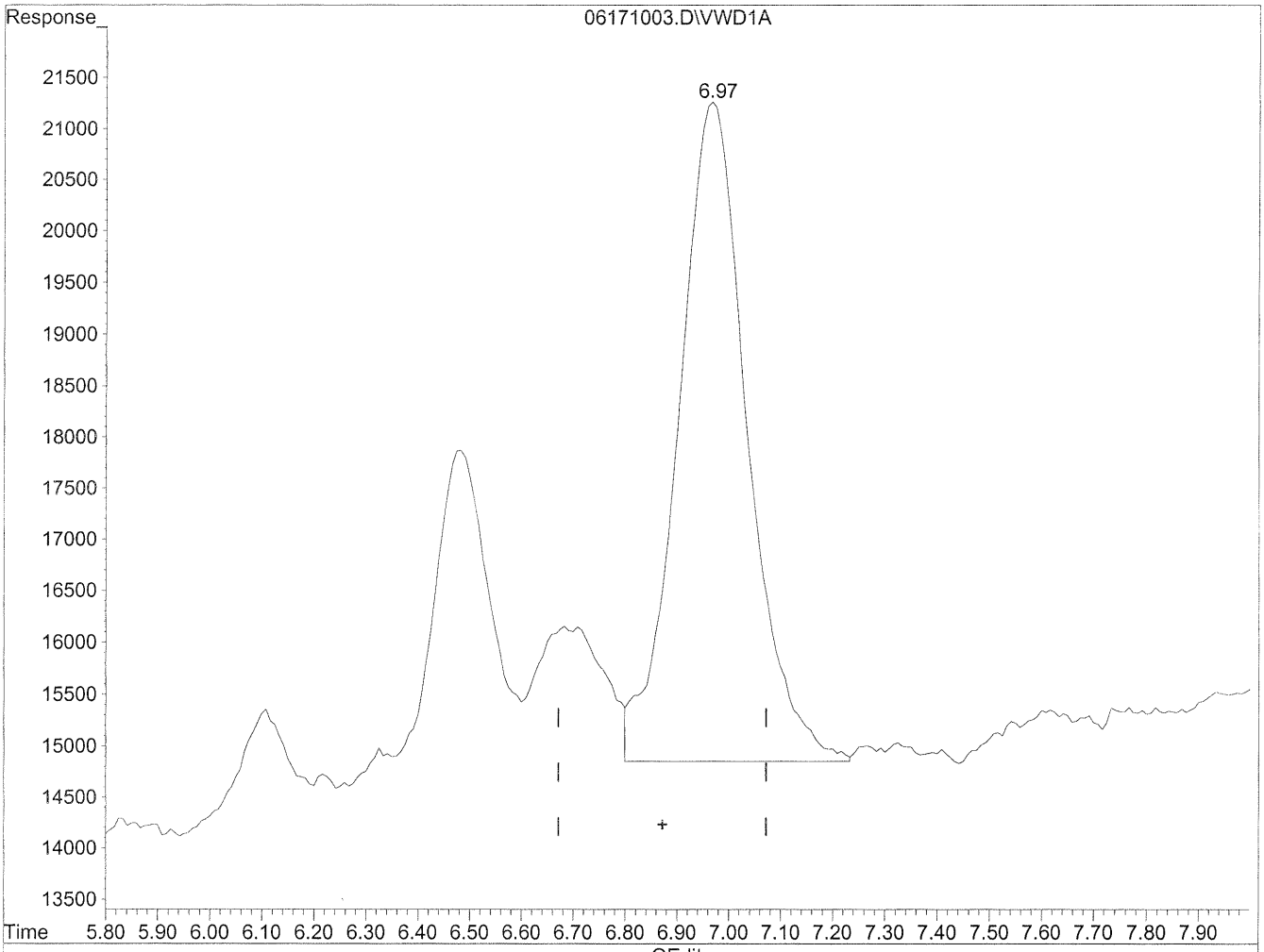
(+) = Expected Retention Time

06171003.D TO110510.M Thu Jun 17 16:25:40 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171003.D Vial: 101
Acq On : 17-Jun-2010, 09:54:45 Operator: HC/SM
Sample : P1001953-003 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:54 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.97min 206.027ng/ml m

response 592403

6/21/10

HC 6/17/10 LC no response

(+) = Expected Retention Time

06171003.D TO110510.M Thu Jun 17 16:25:45 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111001**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-004

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/16/10
Desorption Volume: 2.0 ml
Sampling Time: NA Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**0.29**	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 0.20	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 0.20	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 0.20	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 0.20	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 0.20	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 0.20	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 0.20	NA	NA	NA	NA	

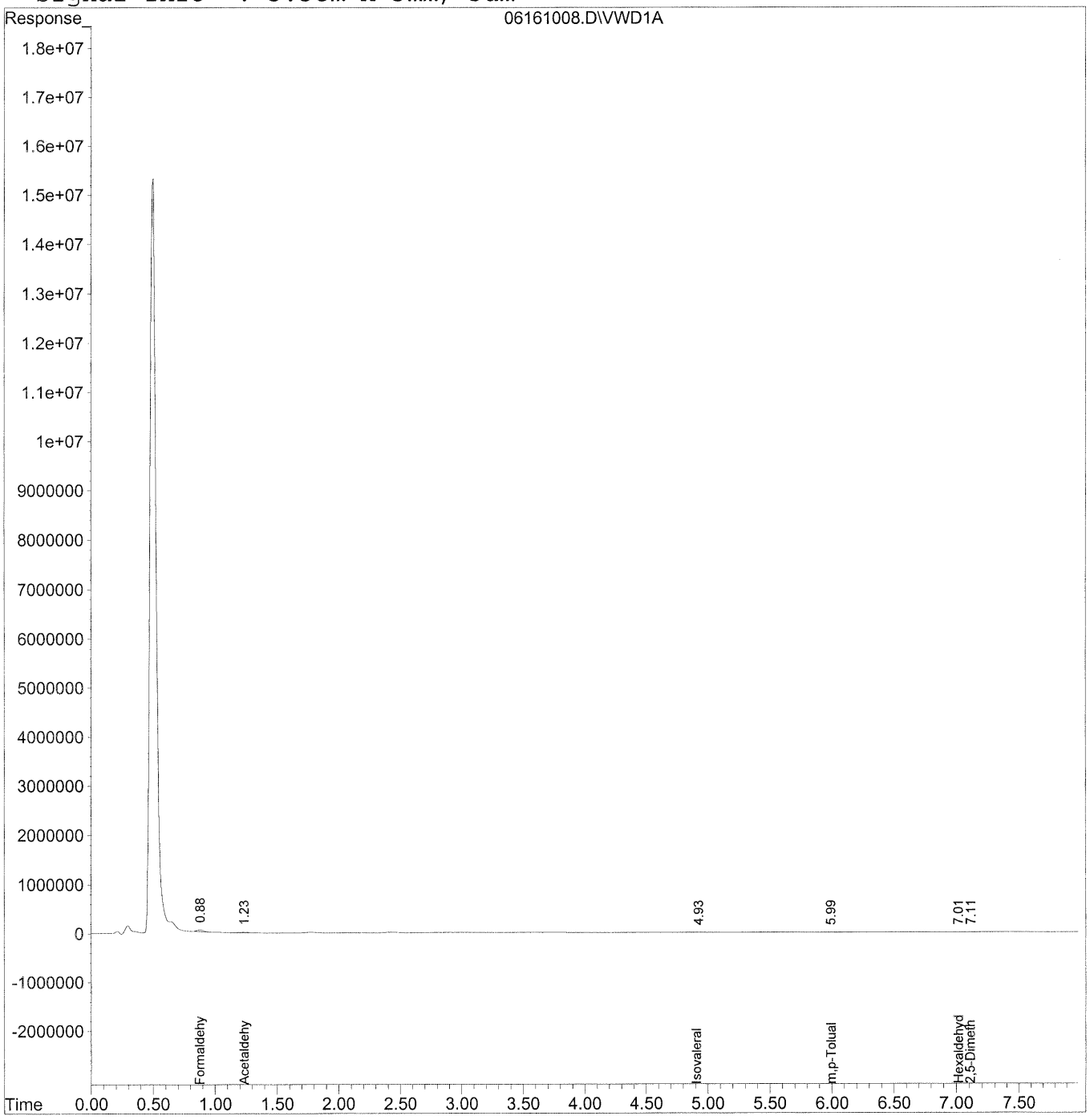
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: _____ Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161008.D Vial: 104
Acq On : 16-Jun-2010, 10:38:12 Operator: HC/SM
Sample : P1001953-004 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:11 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161008.D Vial: 104
Acq On : 16-Jun-2010, 10:38:12 Operator: HC/SM
Sample : P1001953-004 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:11 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

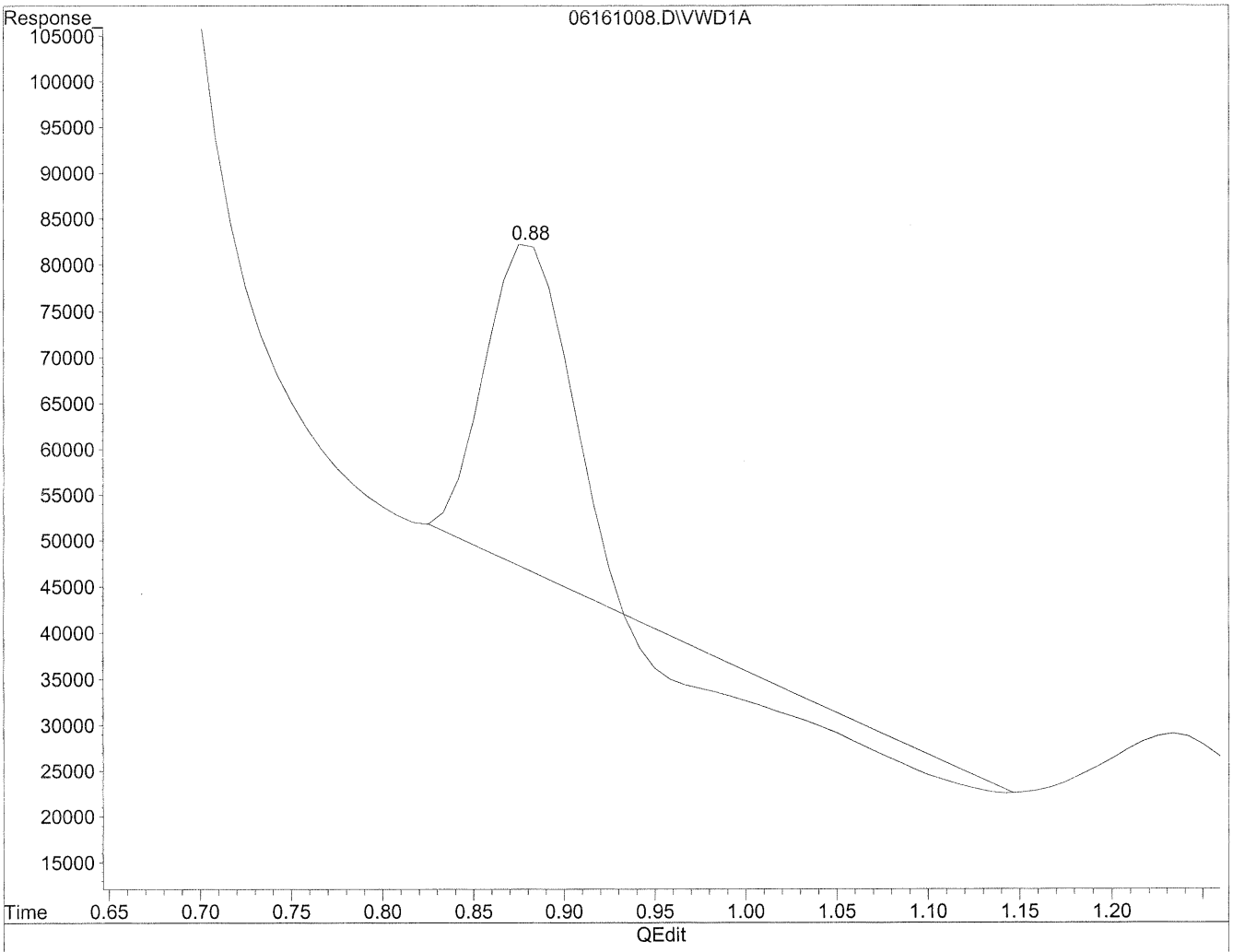
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	1344332	144.043	ng/mlm
2)	Acetaldehyde	1.23	390059	57.913	ng/mlm
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	4.92	56953	16.054	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	5.99	36608	15.627	ng/ml
11)	Hexaldehyde	7.02f	59577	20.720	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.12	45754	23.780	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161008.D Vial: 104
Acq On : 16-Jun-2010, 10:38:12 Operator: HC/SM
Sample : P1001953-004 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.88min 96.087ng/ml

response 896766

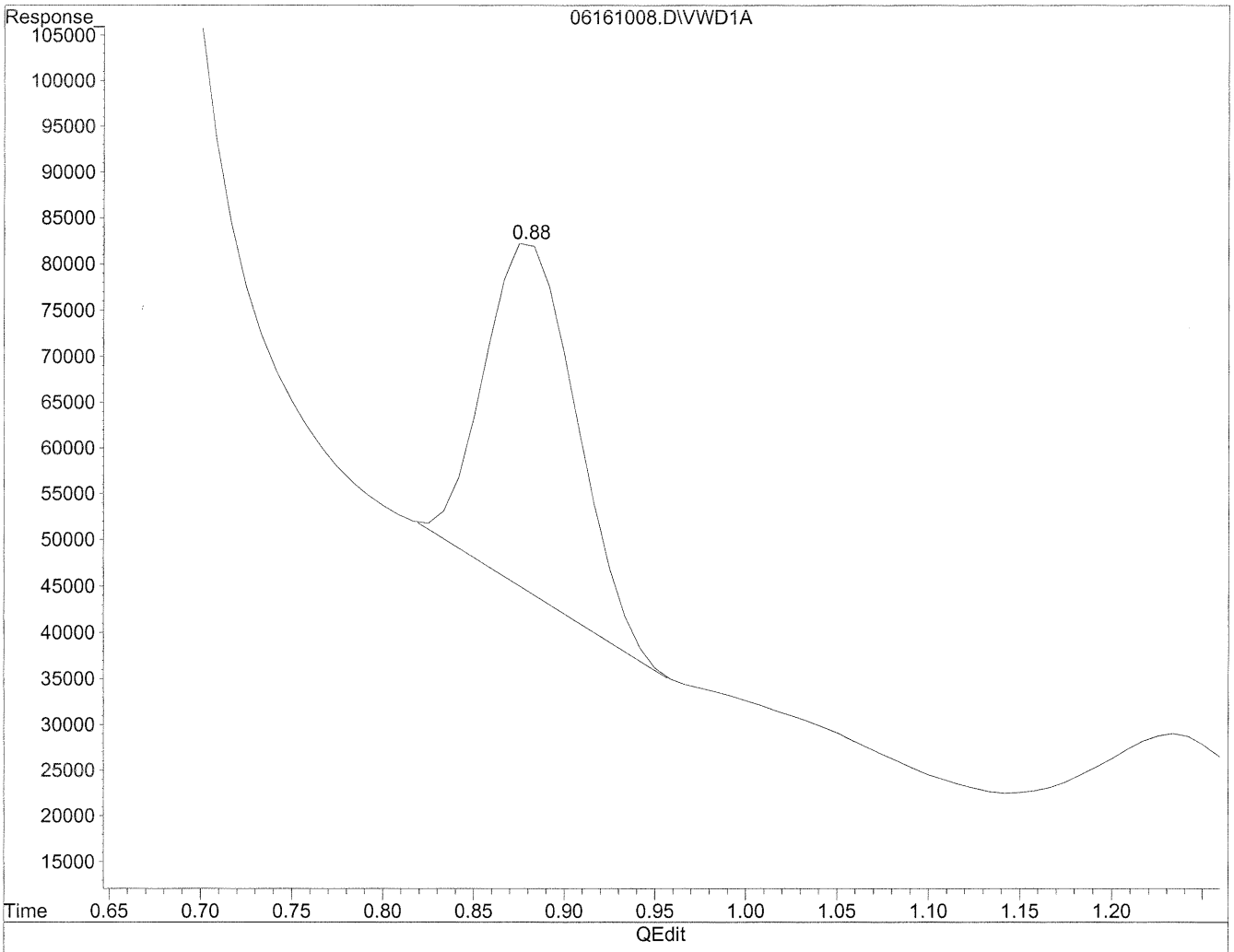
(+) = Expected Retention Time

06161008.D TO110510.M Thu Jun 17 10:10:52 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161008.D Vial: 104
Acq On : 16-Jun-2010, 10:38:12 Operator: HC/SM
Sample : P1001953-004 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.88min 144.043ng/ml m

response 1344332

HC 6/17/10 1C

6/21/10

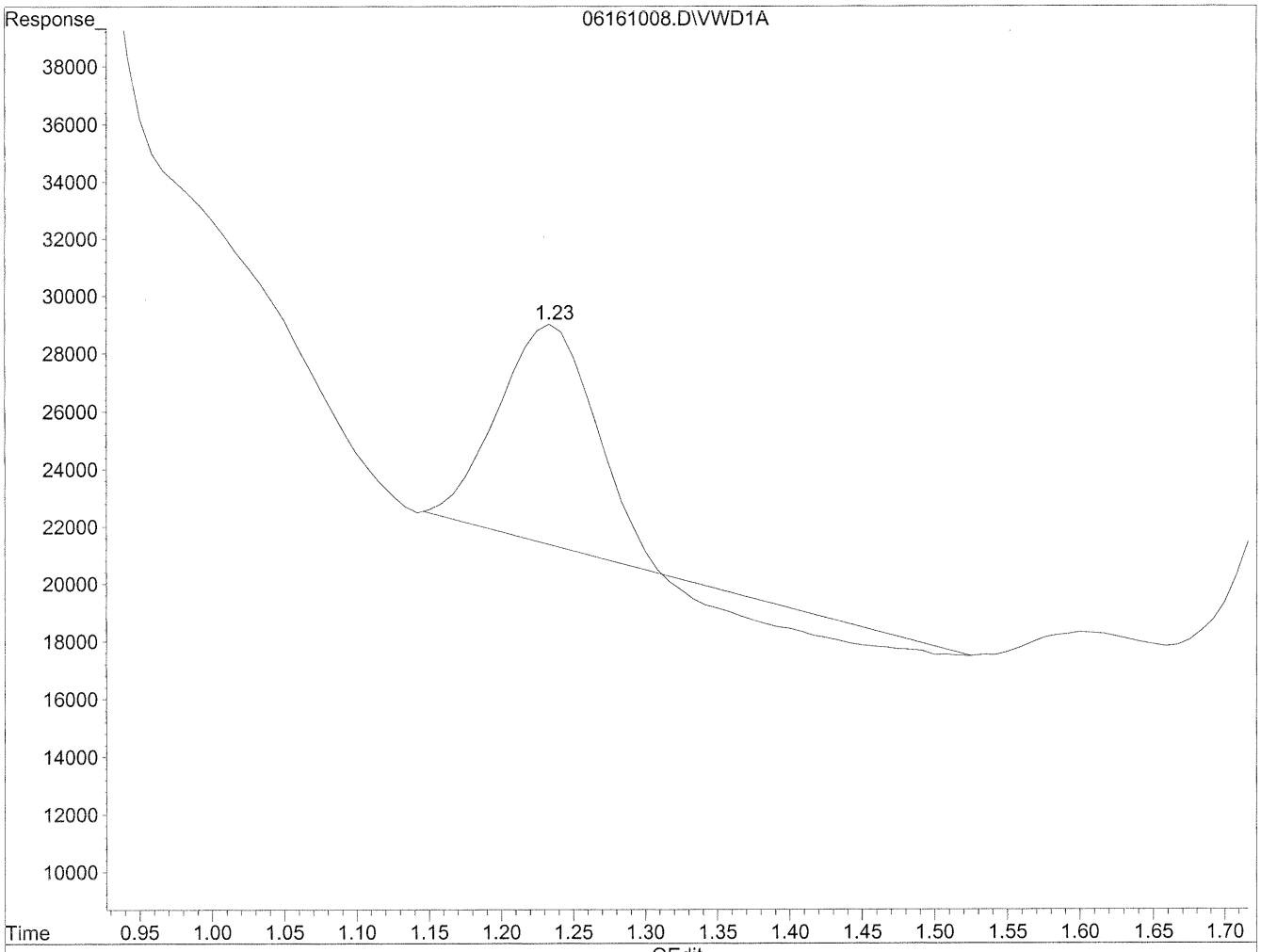
(+) = Expected Retention Time

06161008.D TO110510.M Thu Jun 17 10:11:00 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161008.D Vial: 104
Acq On : 16-Jun-2010, 10:38:12 Operator: HC/SM
Sample : P1001953-004 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.24min 45.116ng/ml

response 303868

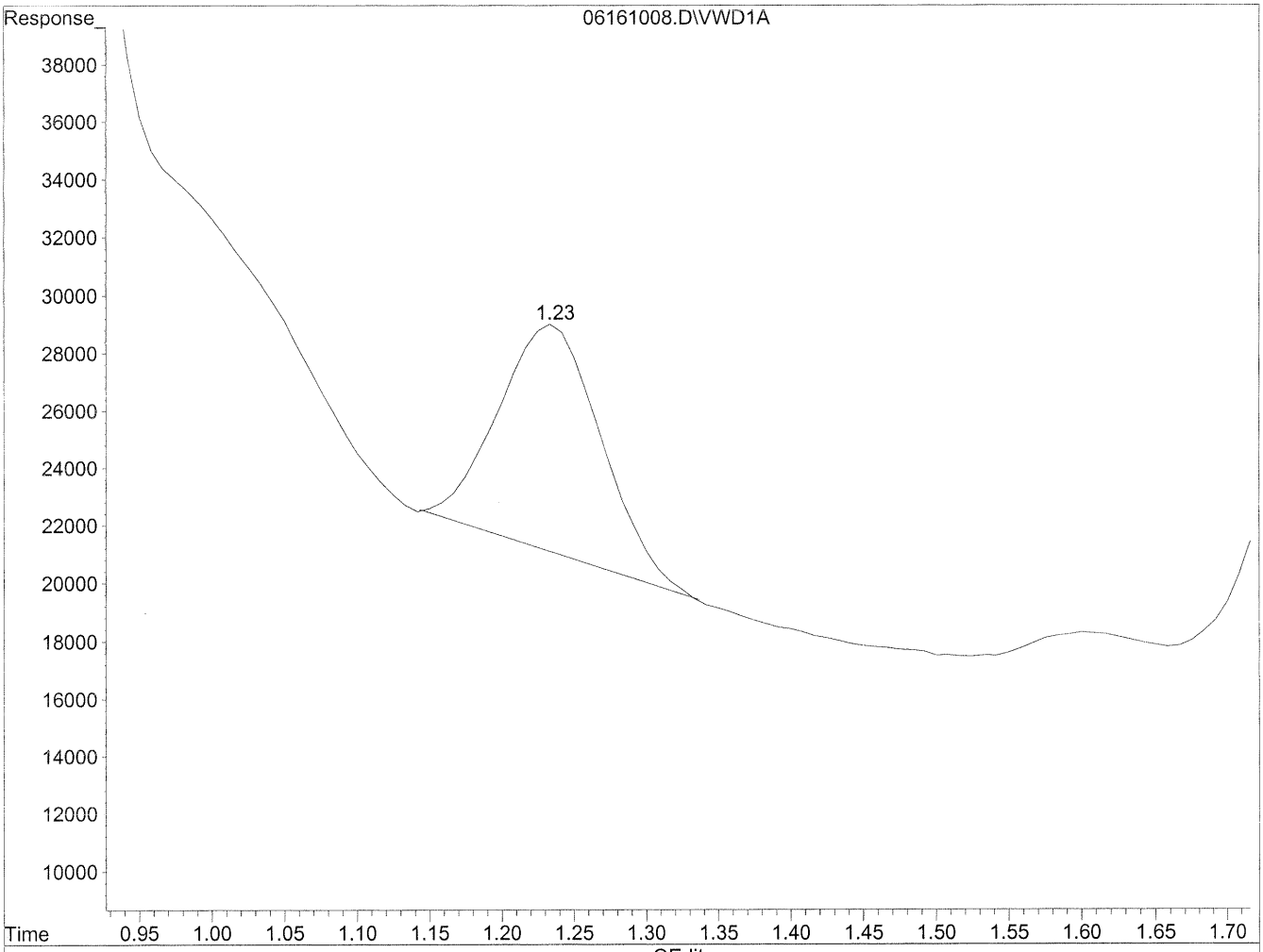
(+) = Expected Retention Time

06161008.D TO110510.M Thu Jun 17 10:11:08 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161008.D Vial: 104
Acq On : 16-Jun-2010, 10:38:12 Operator: HC/SM
Sample : P1001953-004 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 10:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.23min 57.913ng/ml m

response 390059

HC 6/17/10

IC 6/21/10

(+) = Expected Retention Time

06161008.D TO110510.M Thu Jun 17 10:11:16 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111051**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-005

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/16 - 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 18760 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**25**	**14**	0.11	**11**	0.088	
75-07-0	**Acetaldehyde**	**11**	**6.7**	0.13	**3.7**	0.070	
123-38-6	**Propionaldehyde**	**2.4**	**3.2**	0.27	**1.4**	0.12	
123-72-8	**Butyraldehyde**	**3.9**	**19**	0.97	**6.4**	0.33	
100-52-7	**Benzaldehyde**	**4.9**	**2.8**	0.12	**0.66**	0.027	
590-86-3	**Isovaleraldehyde**	**2.0**	**1.8**	0.17	**0.50**	0.050	
110-62-3	**Valeraldehyde**	**6.6**	**13**	0.39	**3.7**	0.11	
66-25-1	**n-Hexaldehyde**	**26**	**76**	0.59	**19**	0.14	

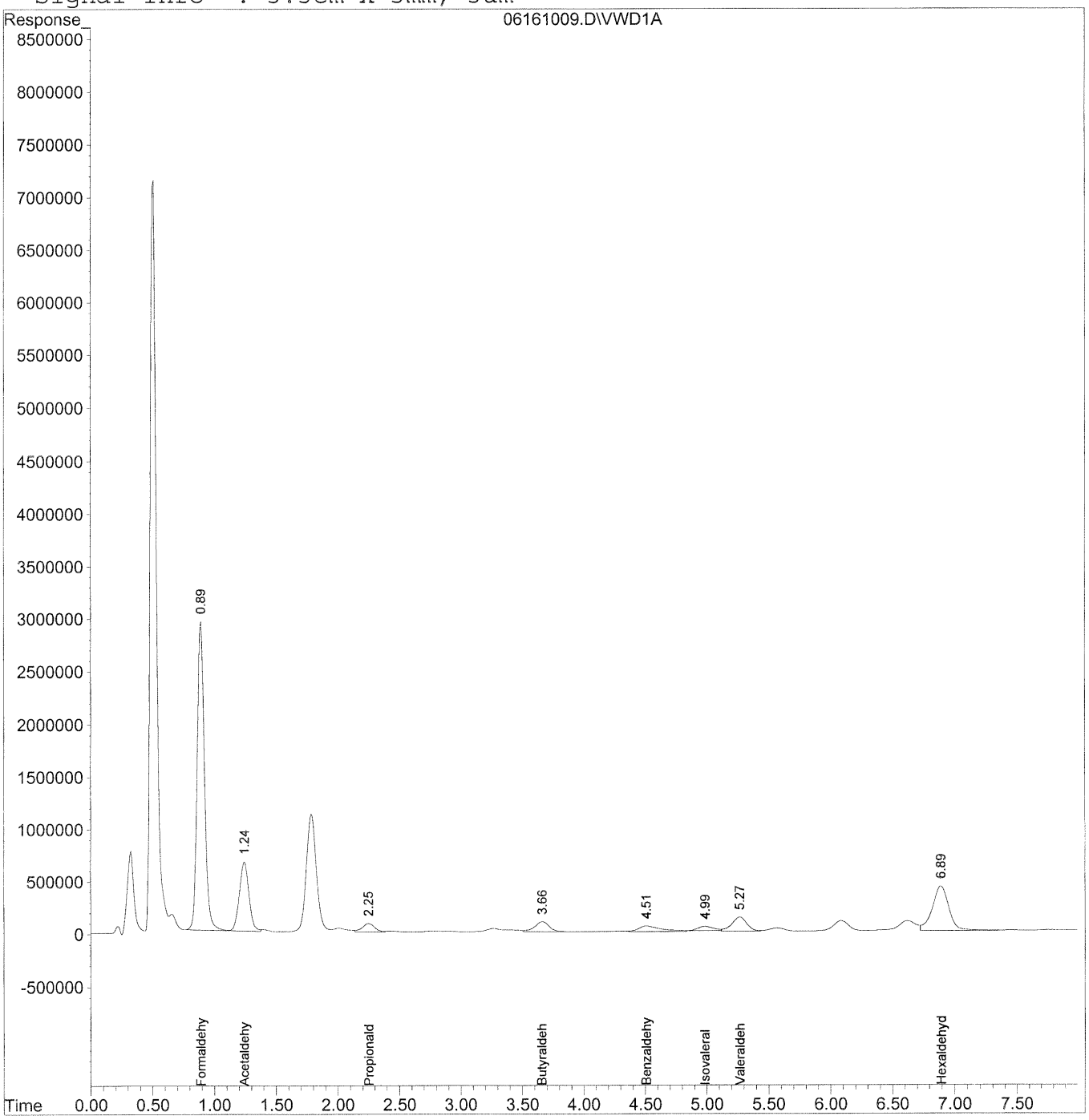
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: _____ Date: 6/20/10

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 15:42 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 15:42 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

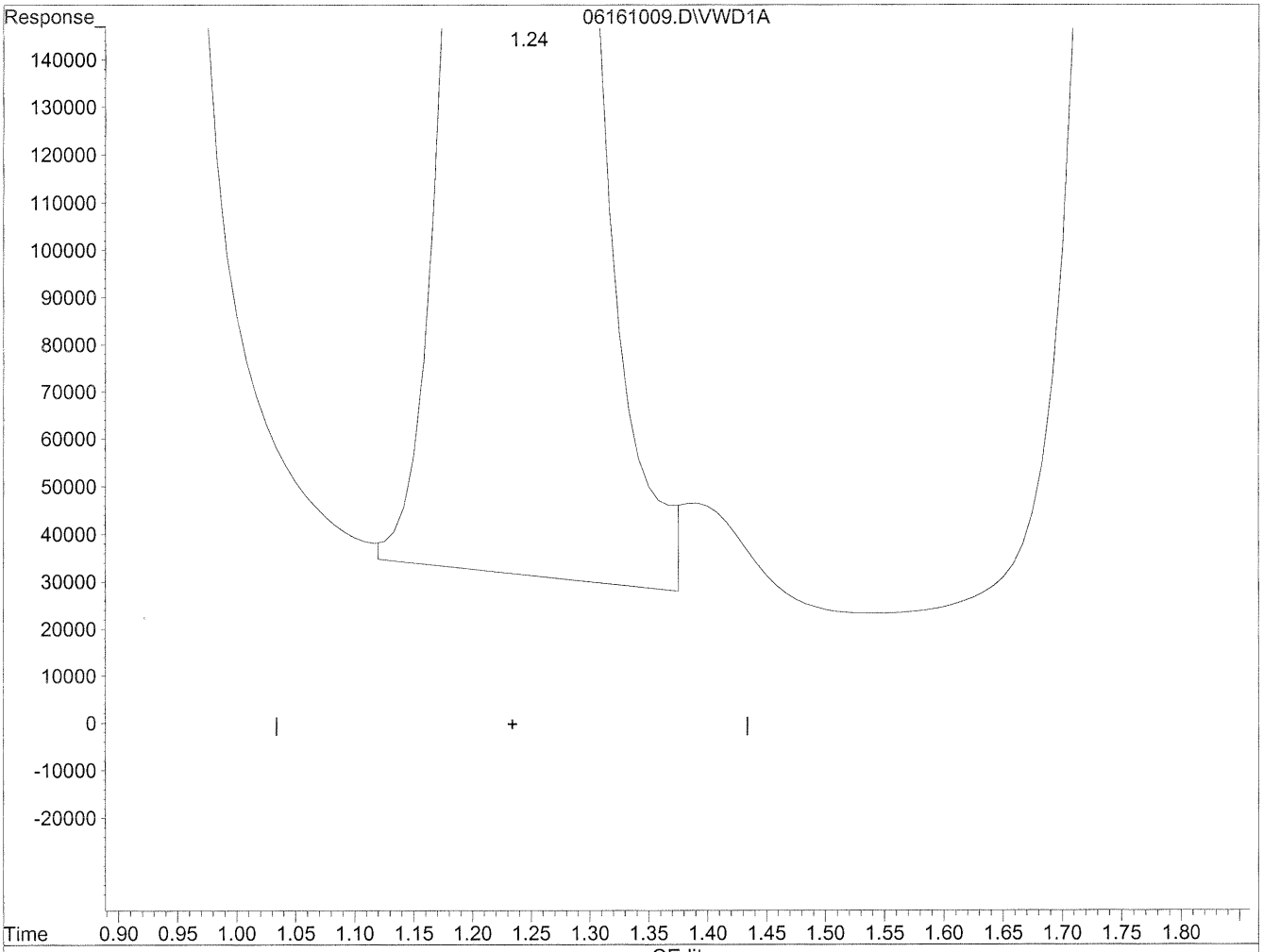
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	120171465	~~12876.147~~	~~ng/ml~~
2)	Acetaldehyde	1.24	35757822	5309.074	ng/mlm
3)	Propionaldehyde	2.25	5721425	1176.758	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.66	7865764	1952.140	ng/mlm
6)	Benzaldehyde	4.51	6639403	2452.930	ng/mlm
7)	Isovaleraldehyde	4.99	3572162	1006.894	ng/mlm
8)	Valeraldehyde	5.27	11000985	3279.359	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.89	38850008	~~13511.292~~	~~ng/ml~~
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.25min 5282.608ng/ml

response 35579565

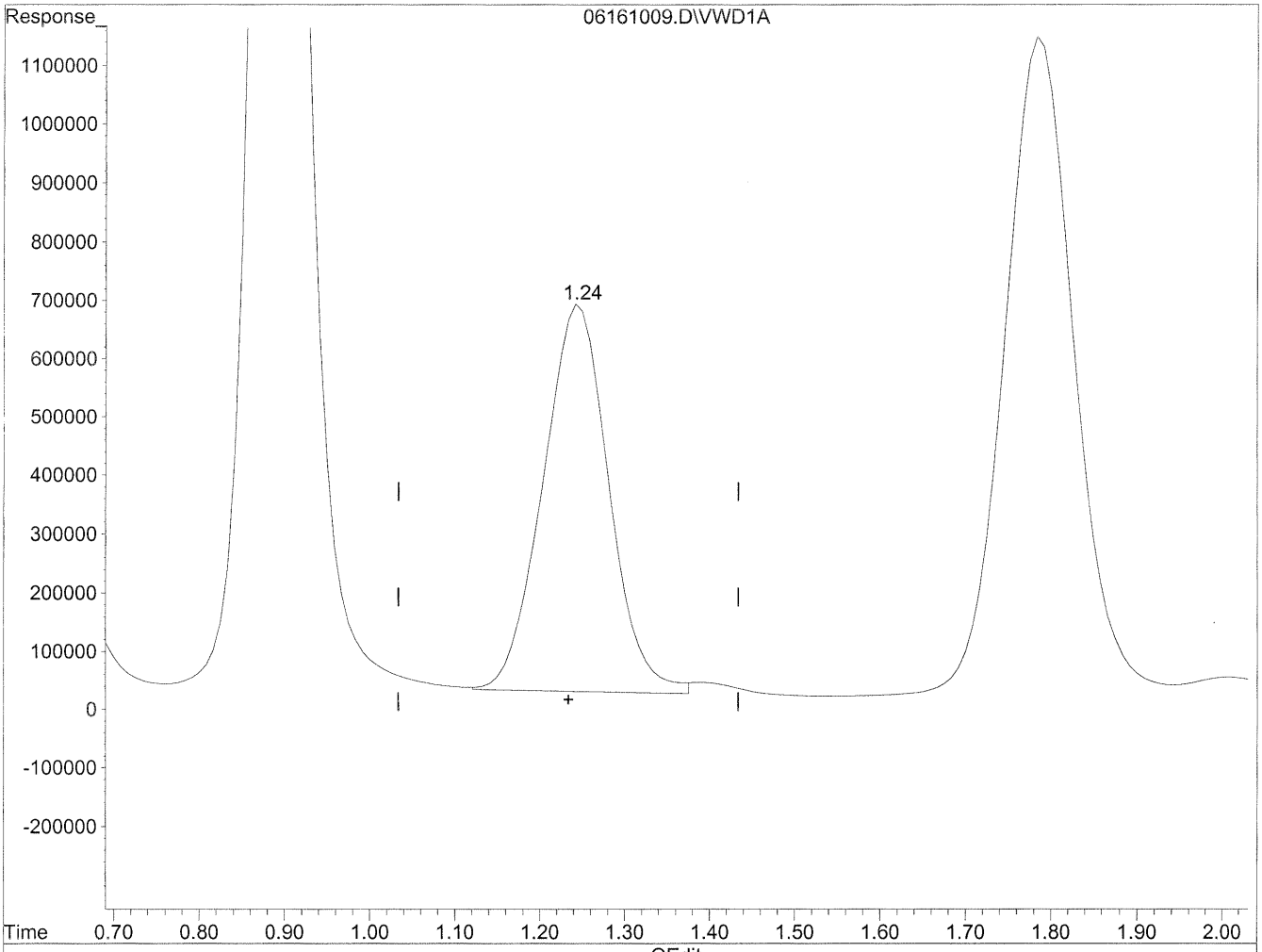
(+) = Expected Retention Time

06161009.D TO110510.M Thu Jun 17 10:11:57 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.24min 5309.074ng/ml m

response 35757822

HC 6/17/10
BC

6/21/10

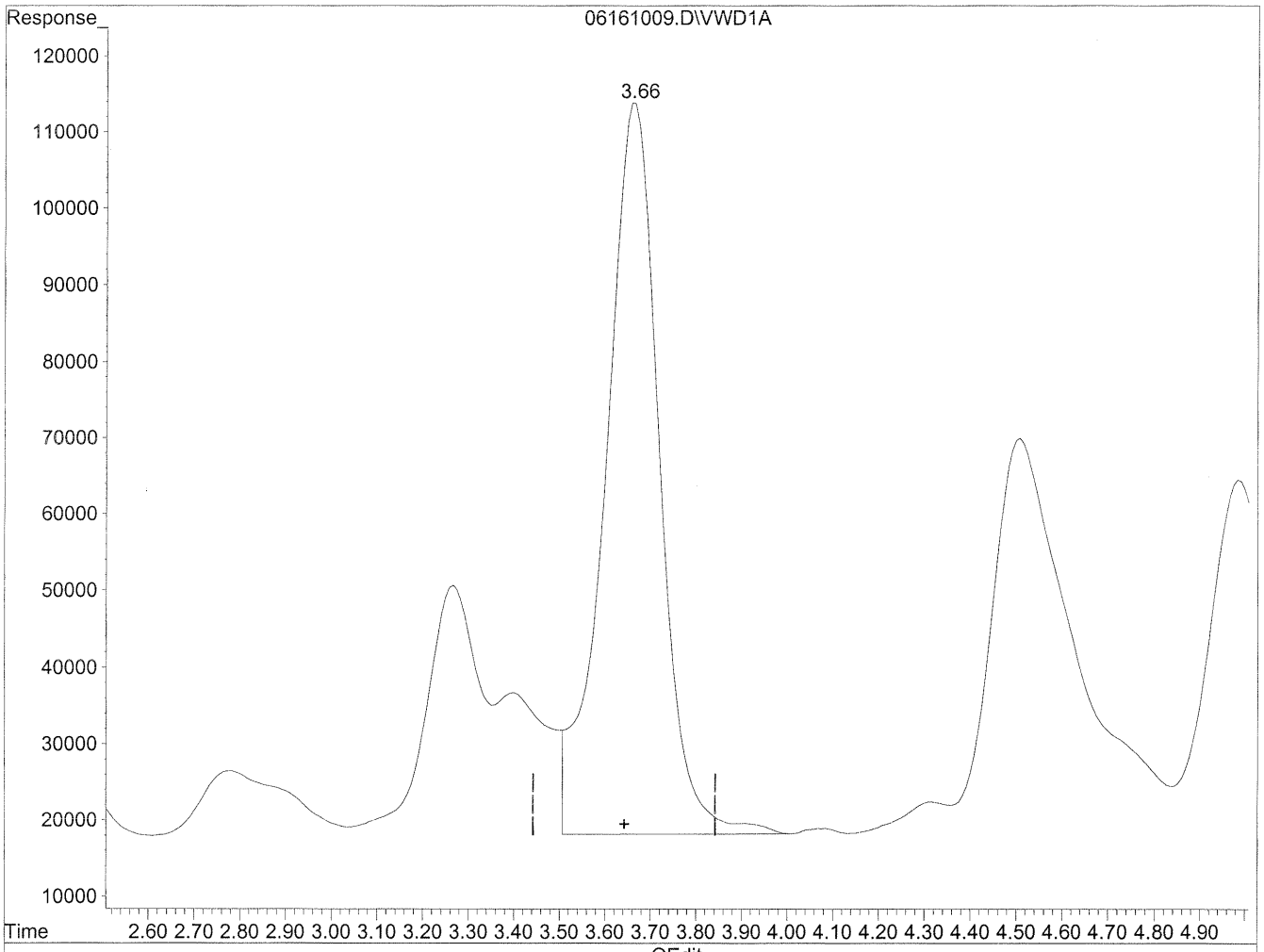
(+) = Expected Retention Time

06161009.D TO110510.M Thu Jun 17 10:12:30 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.67min 1979.198ng/ml

response 7974792

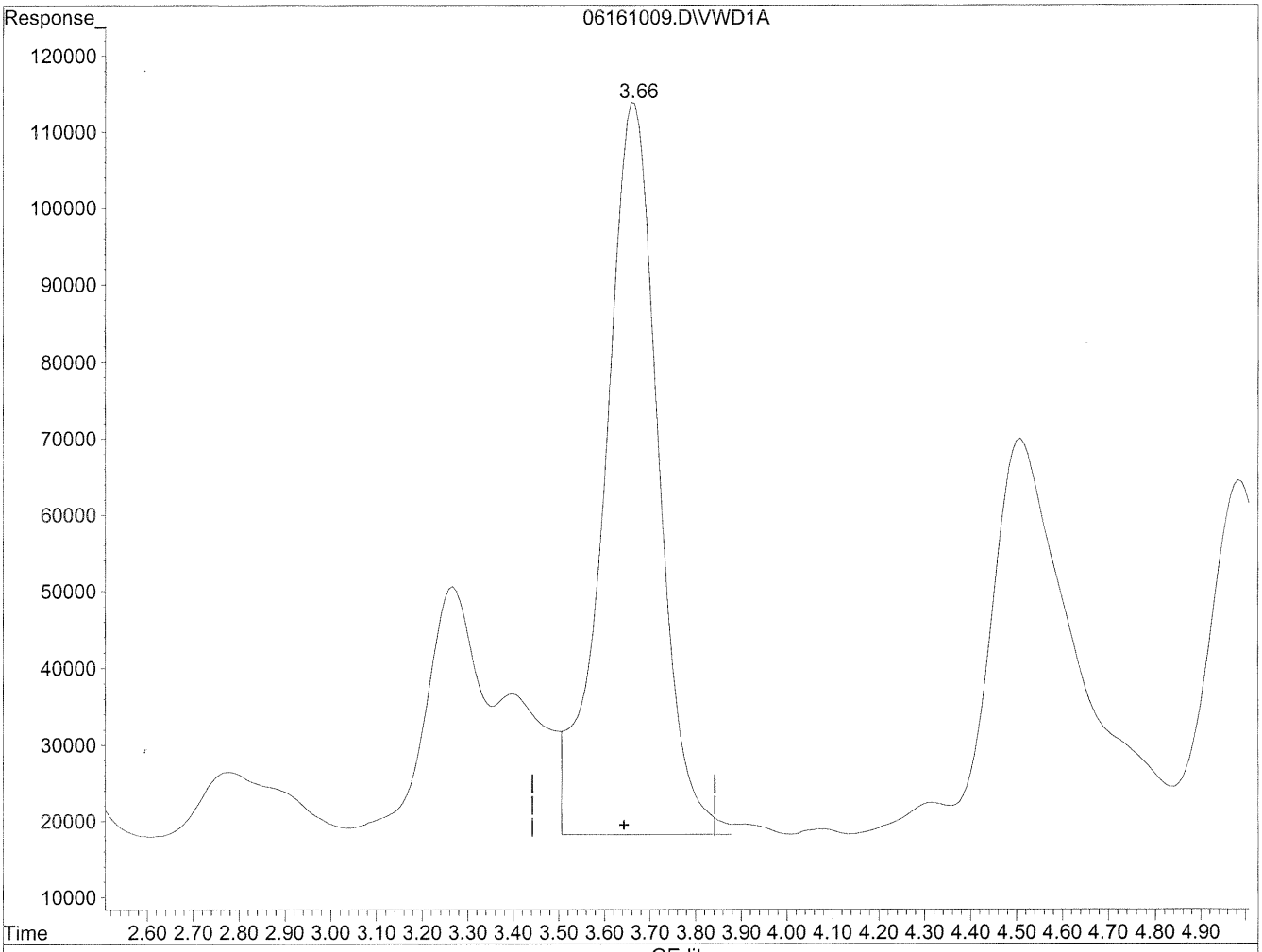
(+) = Expected Retention Time

06161009.D TO110510.M Thu Jun 17 10:12:43 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.66min 1952.140ng/ml m

response 7865764

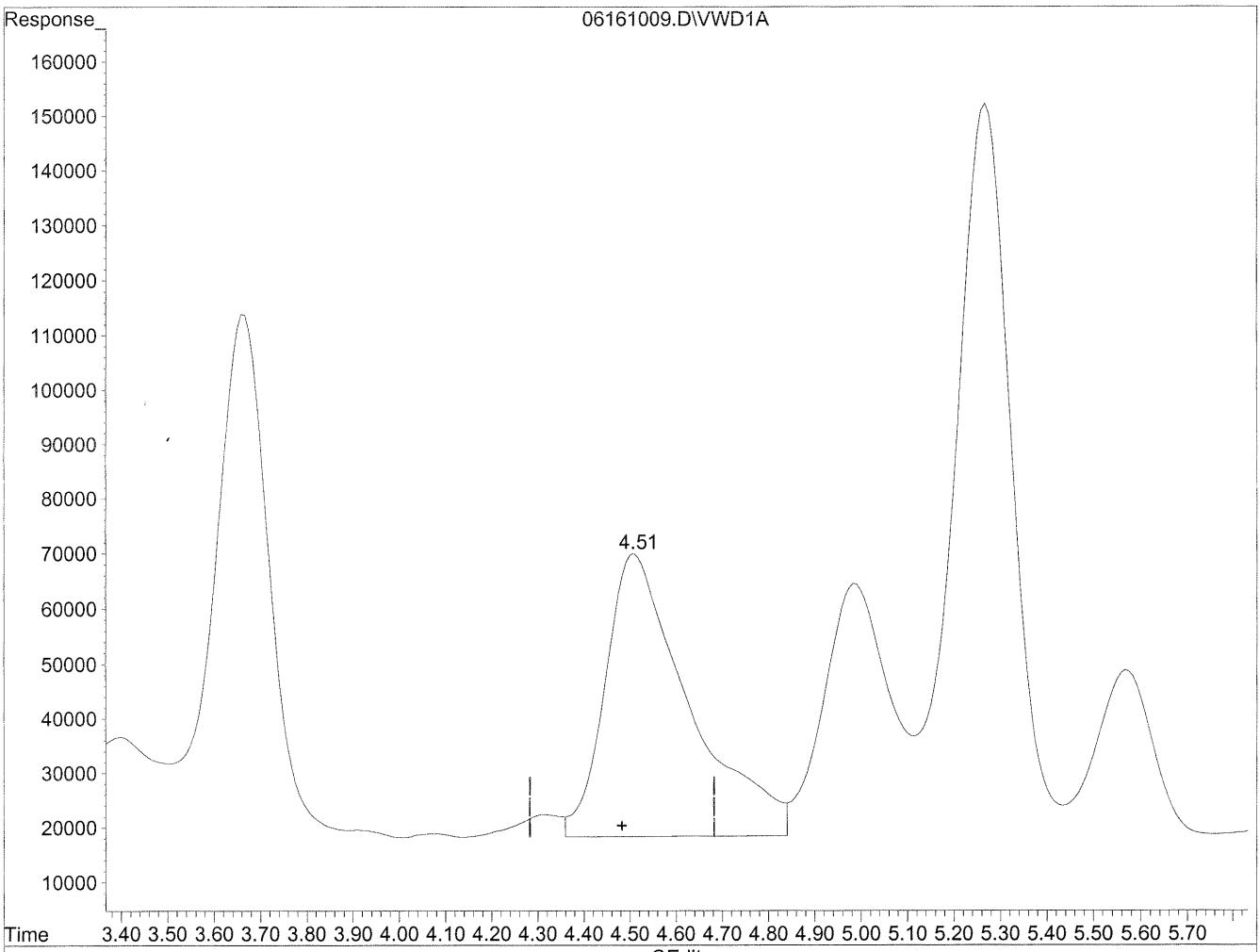
(+) = Expected Retention Time

06161009.D TO110510.M Thu Jun 17 10:13:04 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.51min 2404.008ng/ml

response 6506985

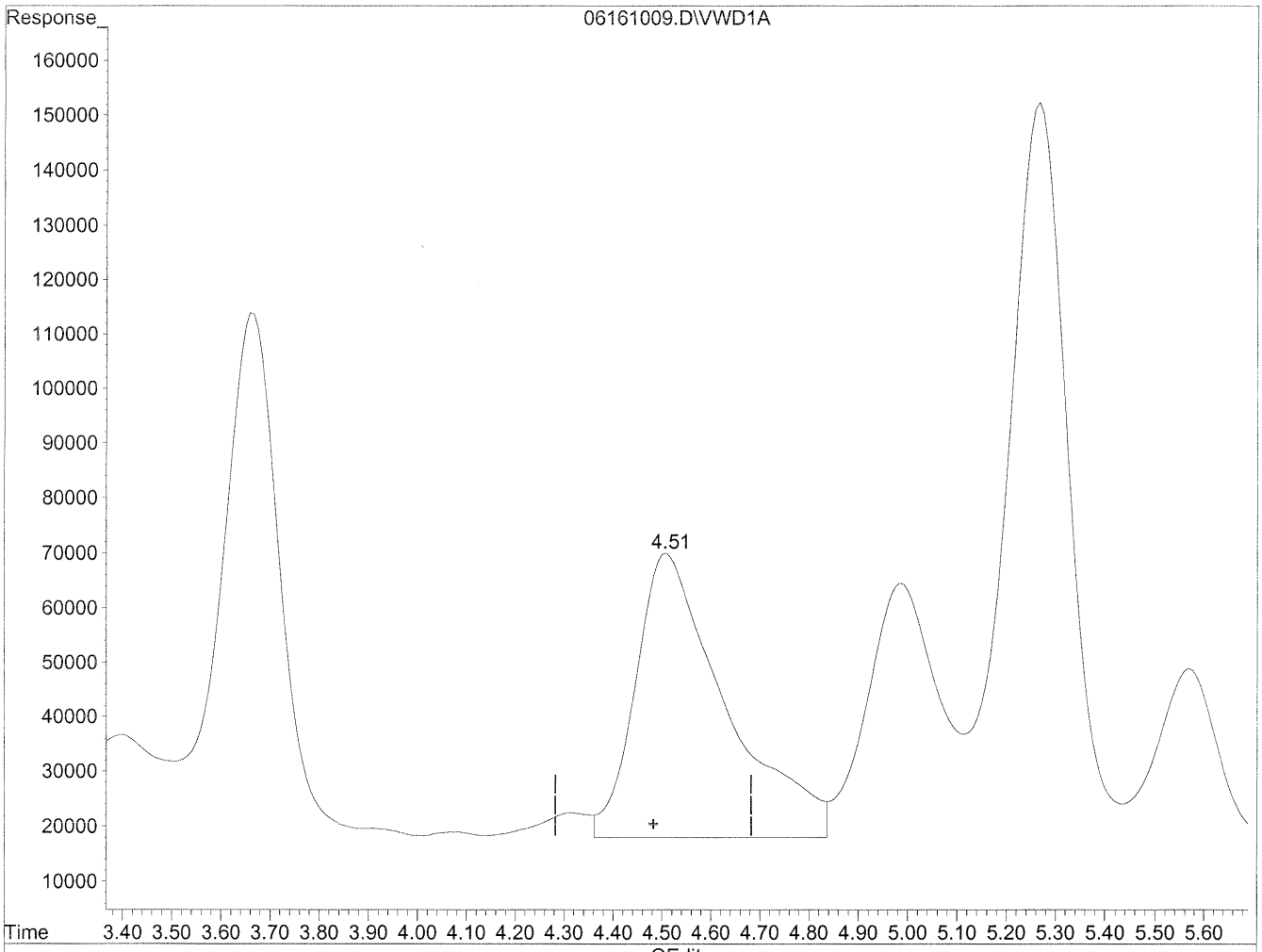
(+) = Expected Retention Time

06161009.D TO110510.M Thu Jun 17 10:13:08 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:14 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.51min 2452.930ng/ml m

response 6639403

HC 6/17/10

BC 6/21/10

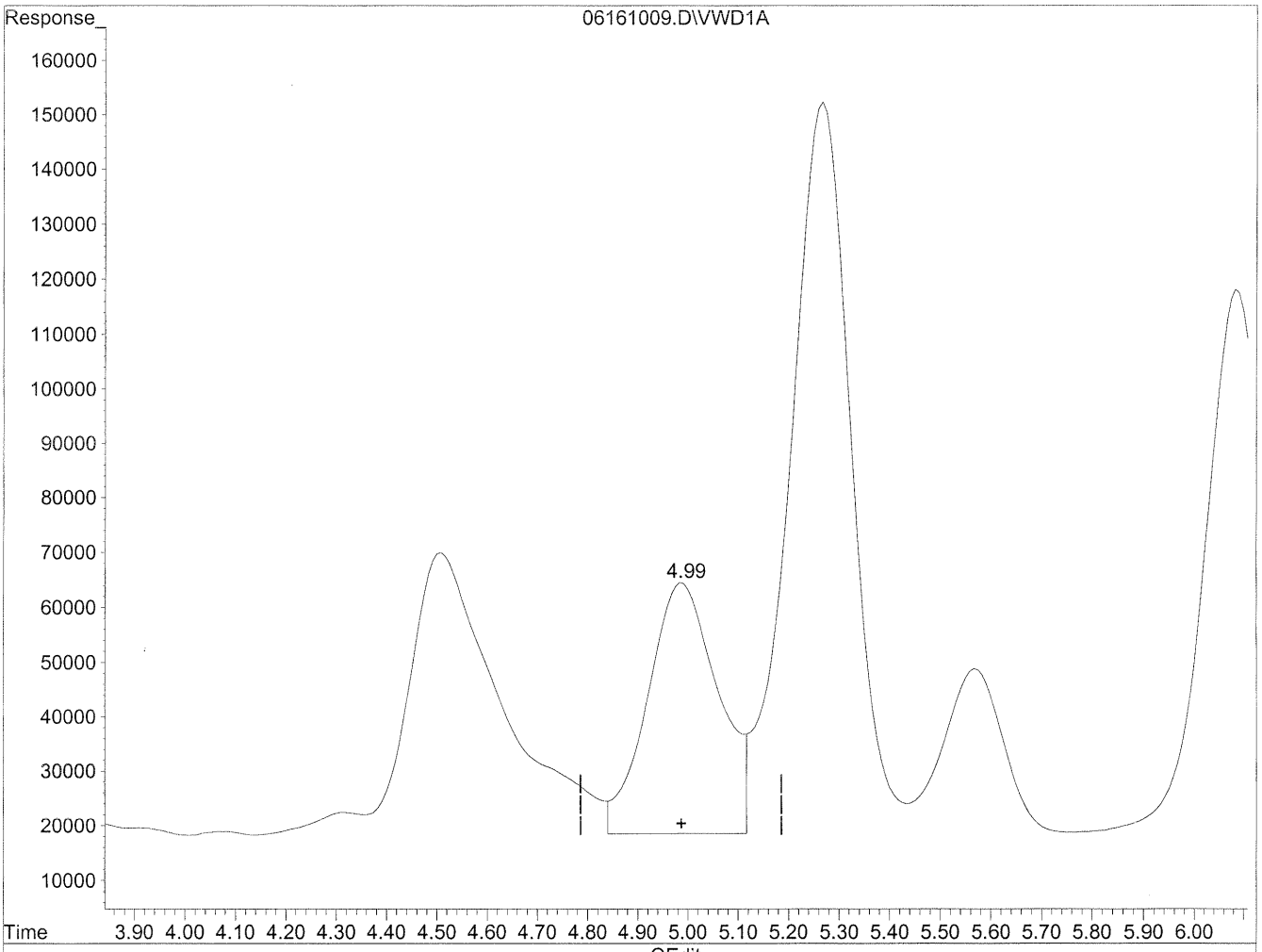
(+) = Expected Retention Time

06161009.D TO110510.M Thu Jun 17 15:42:56 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.99min 1259.820ng/ml

response 4469471

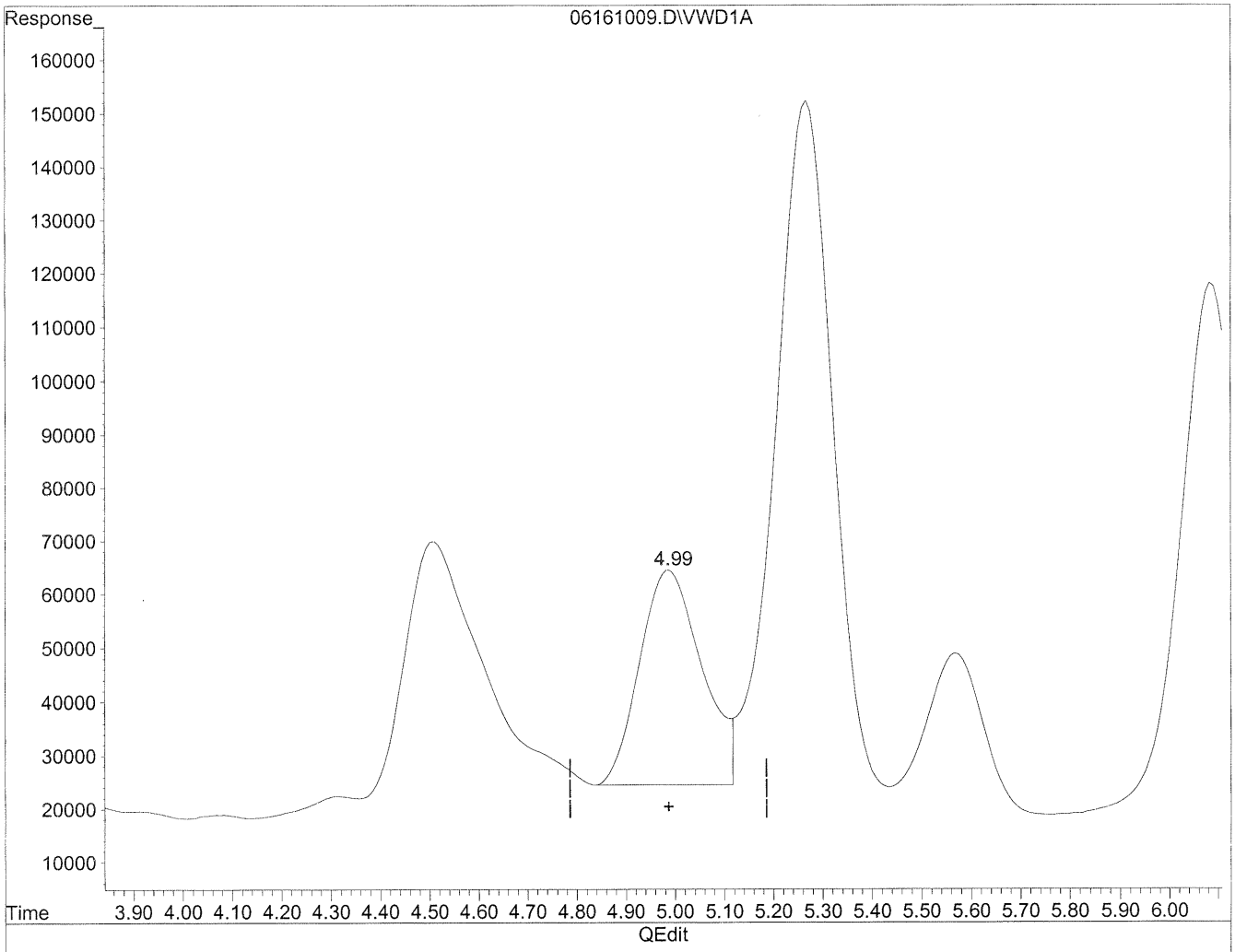
(+) = Expected Retention Time

06161009.D TO110510.M Thu Jun 17 10:14:08 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.99min 1006.894ng/ml m

response 3572162

HC 6/17/10 BC

6/21/10

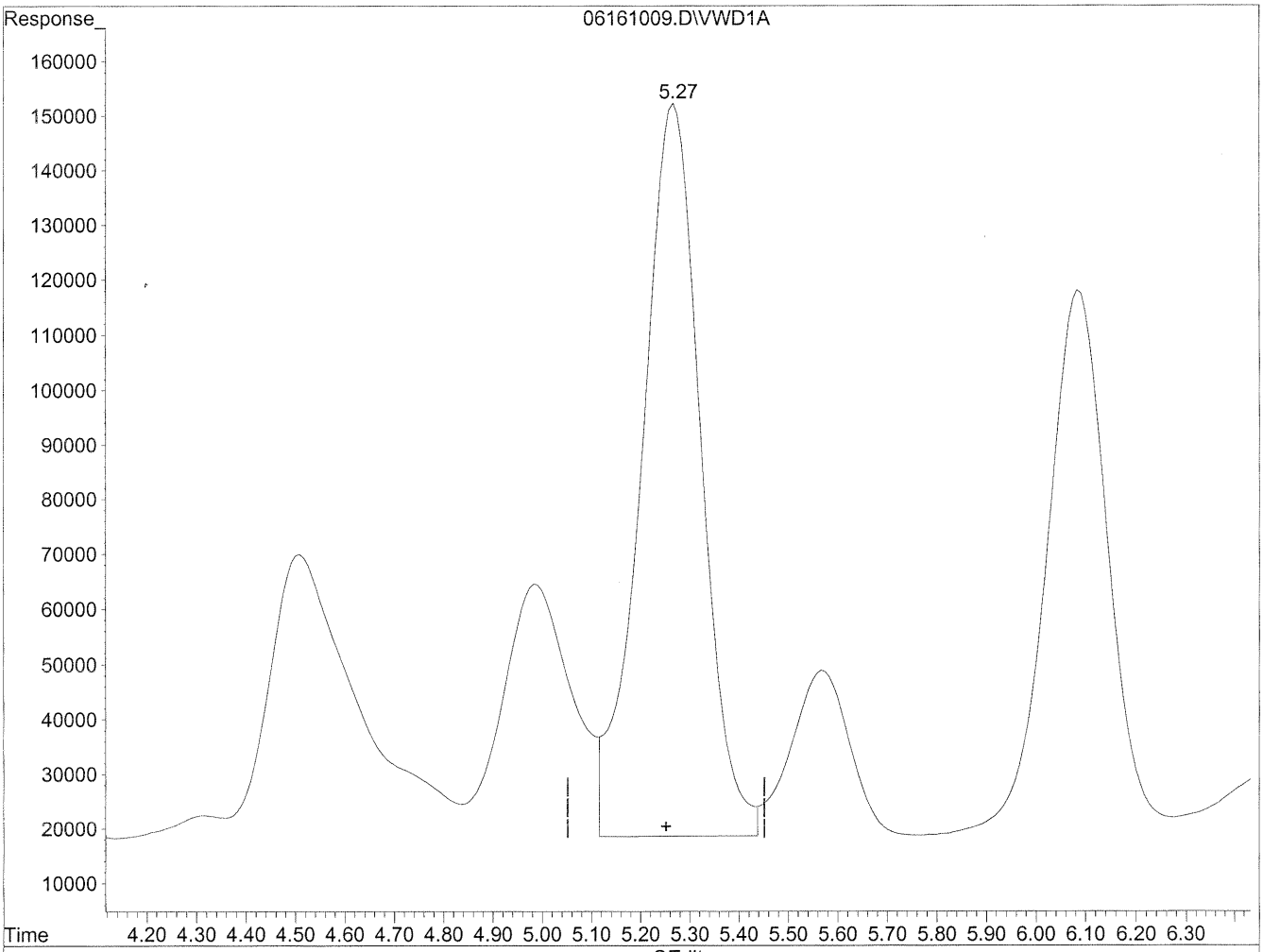
(+) = Expected Retention Time

06161009.D TO110510.M Thu Jun 17 10:14:20 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.27min 3353.686ng/ml

response 11250323

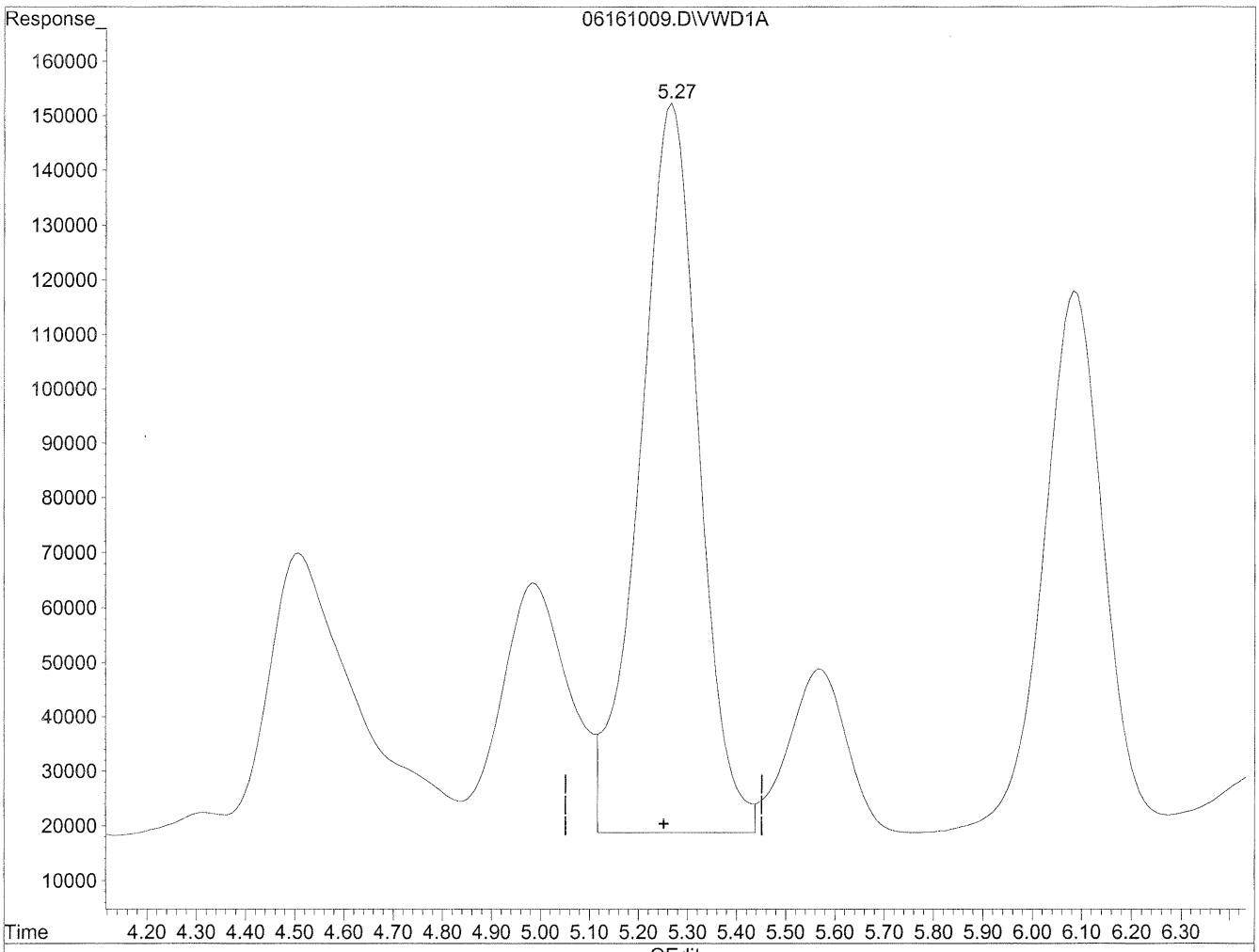
(+) = Expected Retention Time

06161009.D TO110510.M Thu Jun 17 10:14:25 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161009.D Vial: 105
Acq On : 16-Jun-2010, 10:48:49 Operator: HC/SM
Sample : P1001953-005 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.27min 3279.359ng/ml m

response 11000985

HC 6/17/10 BC

6/21/10

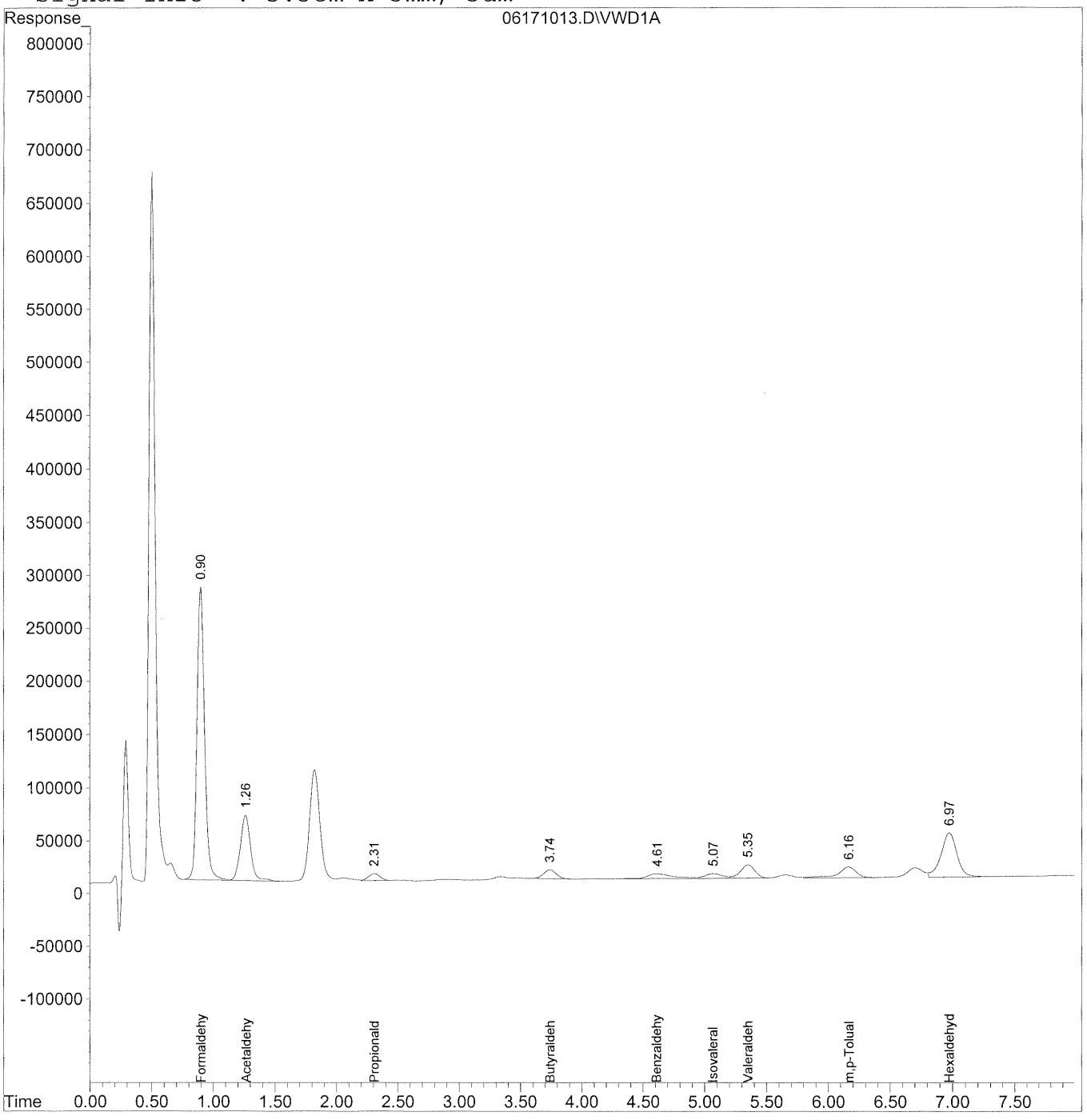
(+) = Expected Retention Time

06161009.D TO110510.M Thu Jun 17 10:14:48 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171013.D Vial: 109
Acq On : 17-Jun-2010, 11:39:25 Operator: HC/SM
Sample : P1001953-005 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:50 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171013.D Vial: 109
Acq On : 17-Jun-2010, 11:39:25 Operator: HC/SM
Sample : P1001953-005 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:50 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

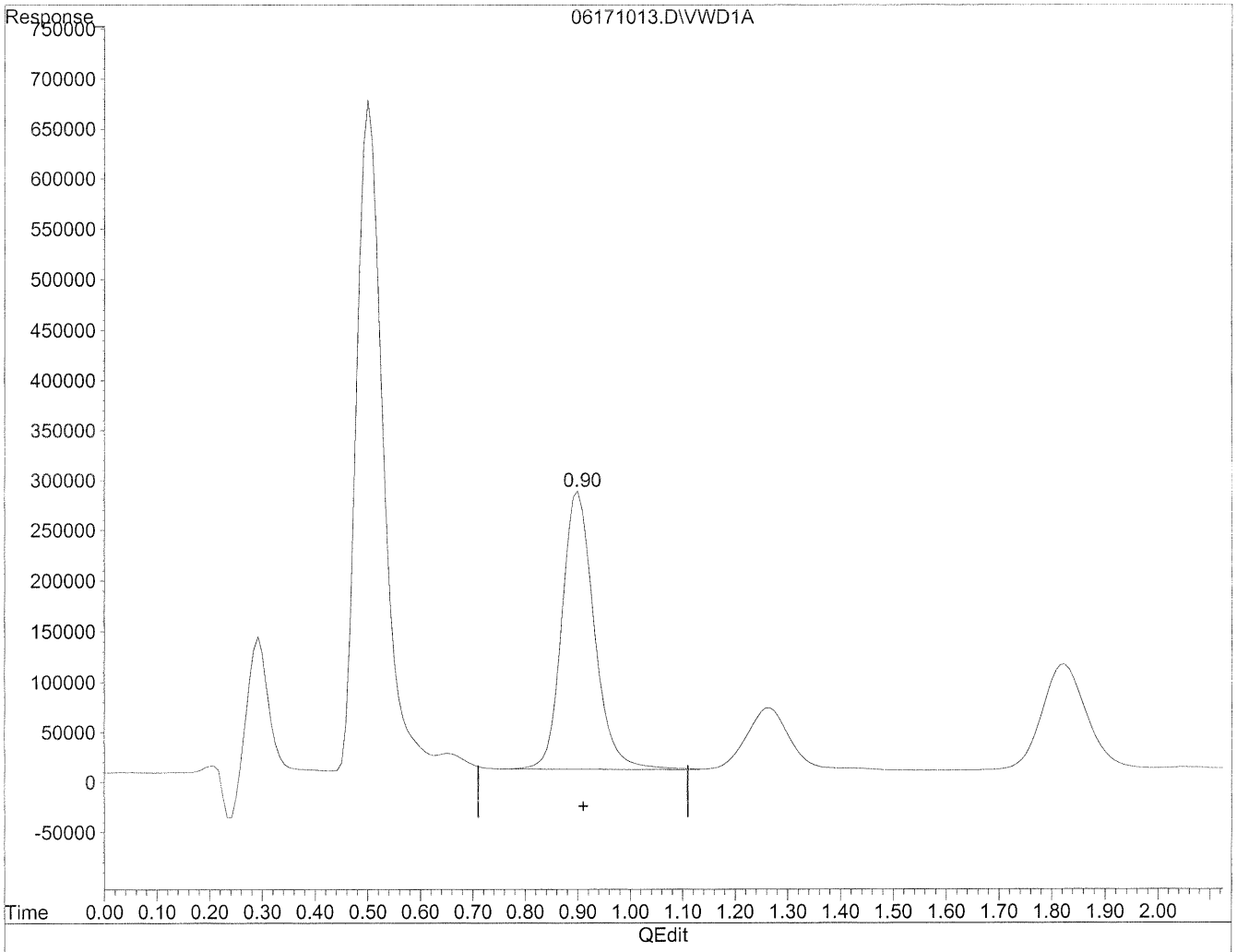
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	11825697	1267.101	ng/ml
2)	Acetaldehyde	1.27	3590960	533.161	ng/ml
3)	Propionaldehyde	2.31	433959	89.255	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.74	636399	157.943	ng/ml
6)	Benzaldehyde	4.62	663576	245.159	ng/ml
7)	Isovaleraldehyde	5.07	450842	127.080	ng/ml
8)	Valeraldehyde	5.35	1037681	309.329	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	6.17f	1044306	445.788	ng/ml
11)	Hexaldehyde	6.98	3699589	1286.646	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171013.D Vial: 109
Acq On : 17-Jun-2010, 11:39:25 Operator: HC/SM
Sample : P1001953-005 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.90min 1267.101ng/ml

response 11825697

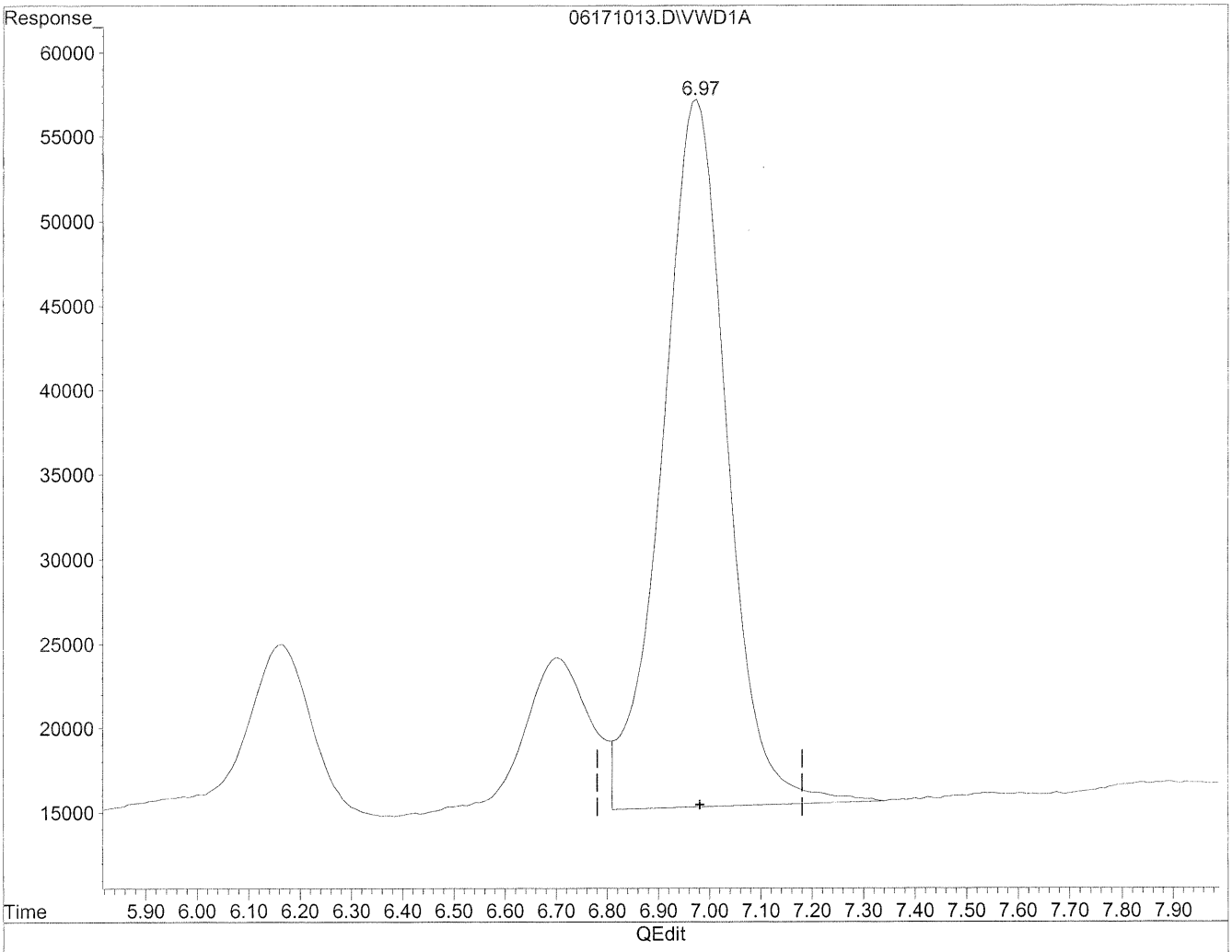
(+) = Expected Retention Time

06171013.D TO110510.M Fri Jun 18 08:21:45 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171013.D Vial: 109
Acq On : 17-Jun-2010, 11:39:25 Operator: HC/SM
Sample : P1001953-005 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:50 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.98min 1286.646ng/ml

response 3699589

(+) = Expected Retention Time

06171013.D TO110510.M Fri Jun 18 08:21:49 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111052**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-006

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/16 - 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 18760 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**25**	**14**	0.11	**11**	0.088	
75-07-0	**Acetaldehyde**	**9.5**	**6.0**	0.13	**3.3**	0.070	
123-38-6	**Propionaldehyde**	**2.2**	**3.0**	0.27	**1.3**	0.12	
123-72-8	**Butyraldehyde**	**3.9**	**19**	0.97	**6.4**	0.33	
100-52-7	**Benzaldehyde**	**4.9**	**2.9**	0.12	**0.66**	0.027	
590-86-3	**Isovaleraldehyde**	**2.1**	**1.8**	0.17	**0.52**	0.050	
110-62-3	**Valeraldehyde**	**7.4**	**15**	0.39	**4.2**	0.11	
66-25-1	**n-Hexaldehyde**	**26**	**78**	0.59	**19**	0.14	

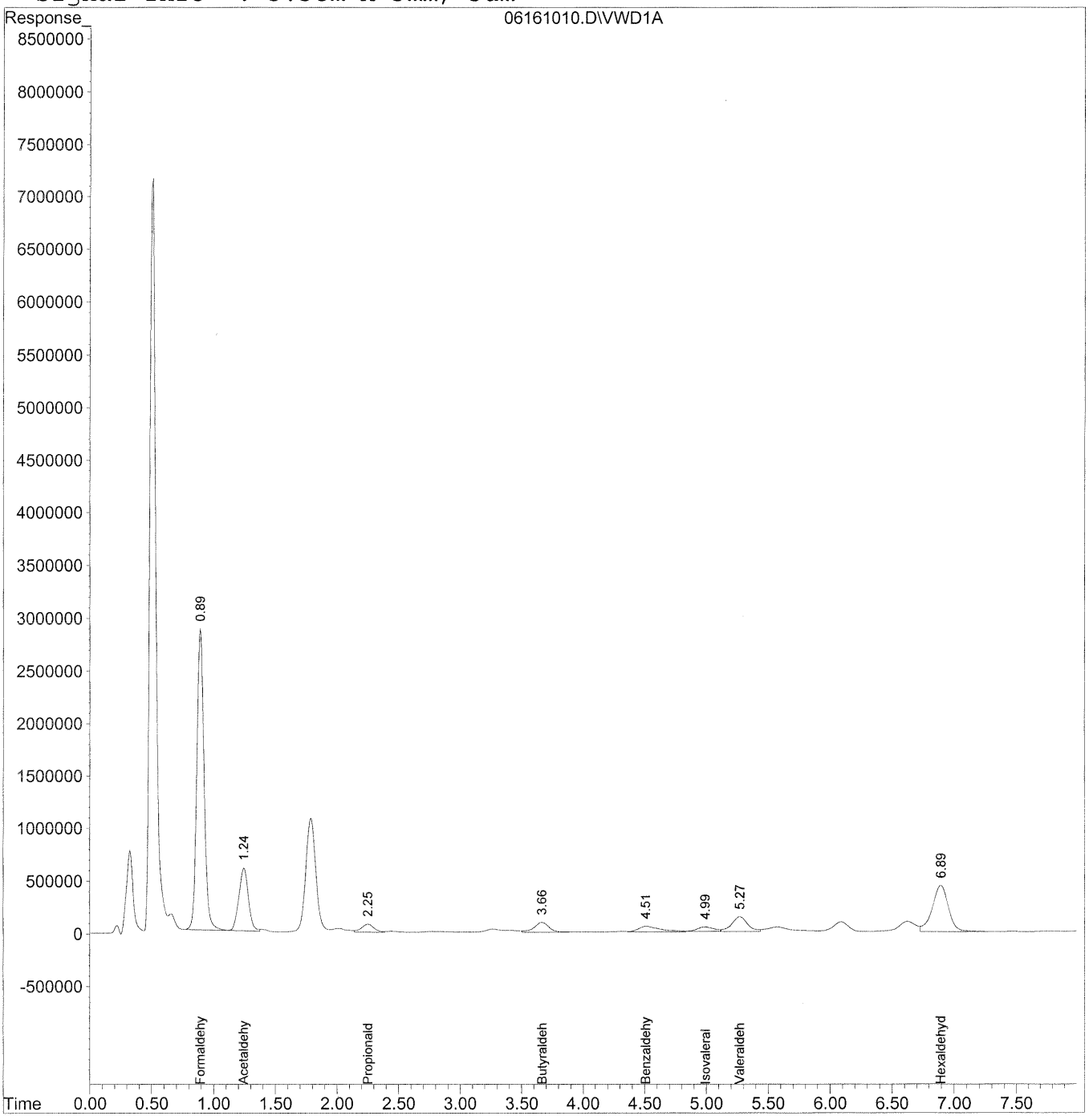
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: RG Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161010.D Vial: 106
Acq On : 16-Jun-2010, 10:59:27 Operator: HC/SM
Sample : P1001953-006 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 15:45 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161010.D Vial: 106
Acq On : 16-Jun-2010, 10:59:27 Operator: HC/SM
Sample : P1001953-006 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 15:45 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

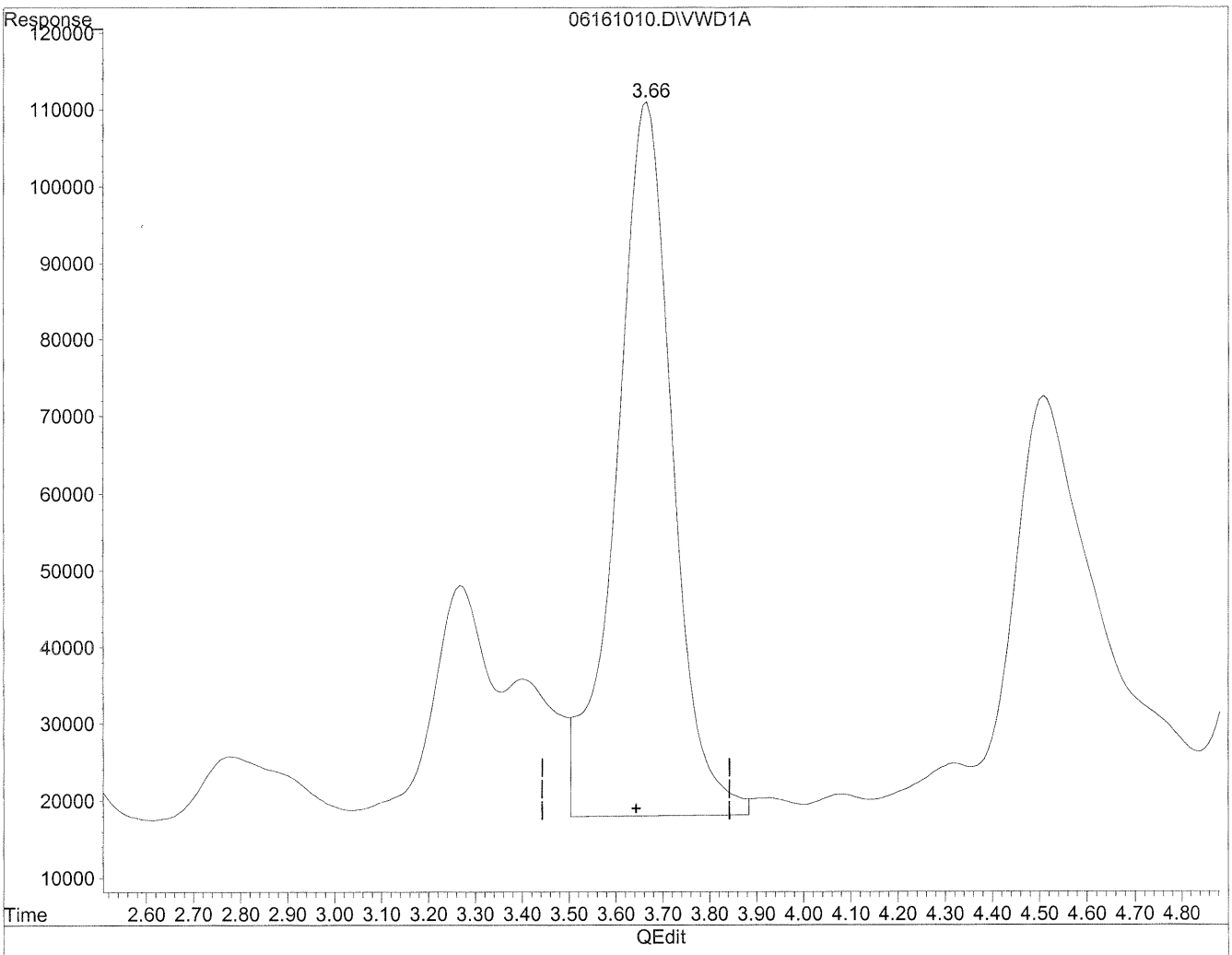
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	116960984	12532.150	ng/ml
2)	Acetaldehyde	1.25	31881504	4733.545	ng/ml
3)	Propionaldehyde	2.25	5359168	1102.251	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.66	7840199	1945.795	ng/mlm
6)	Benzaldehyde	4.51	6683880	2469.362	ng/mlm
7)	Isovaleraldehyde	4.99	3681660	1037.758	ng/mlm
8)	Valeraldehyde	5.27	12436239	3707.203	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.90	39166925	13621.510	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161010.D Vial: 106
Acq On : 16-Jun-2010, 10:59:27 Operator: HC/SM
Sample : P1001953-006 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:15 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.67min 1922.450ng/ml

response 7746135

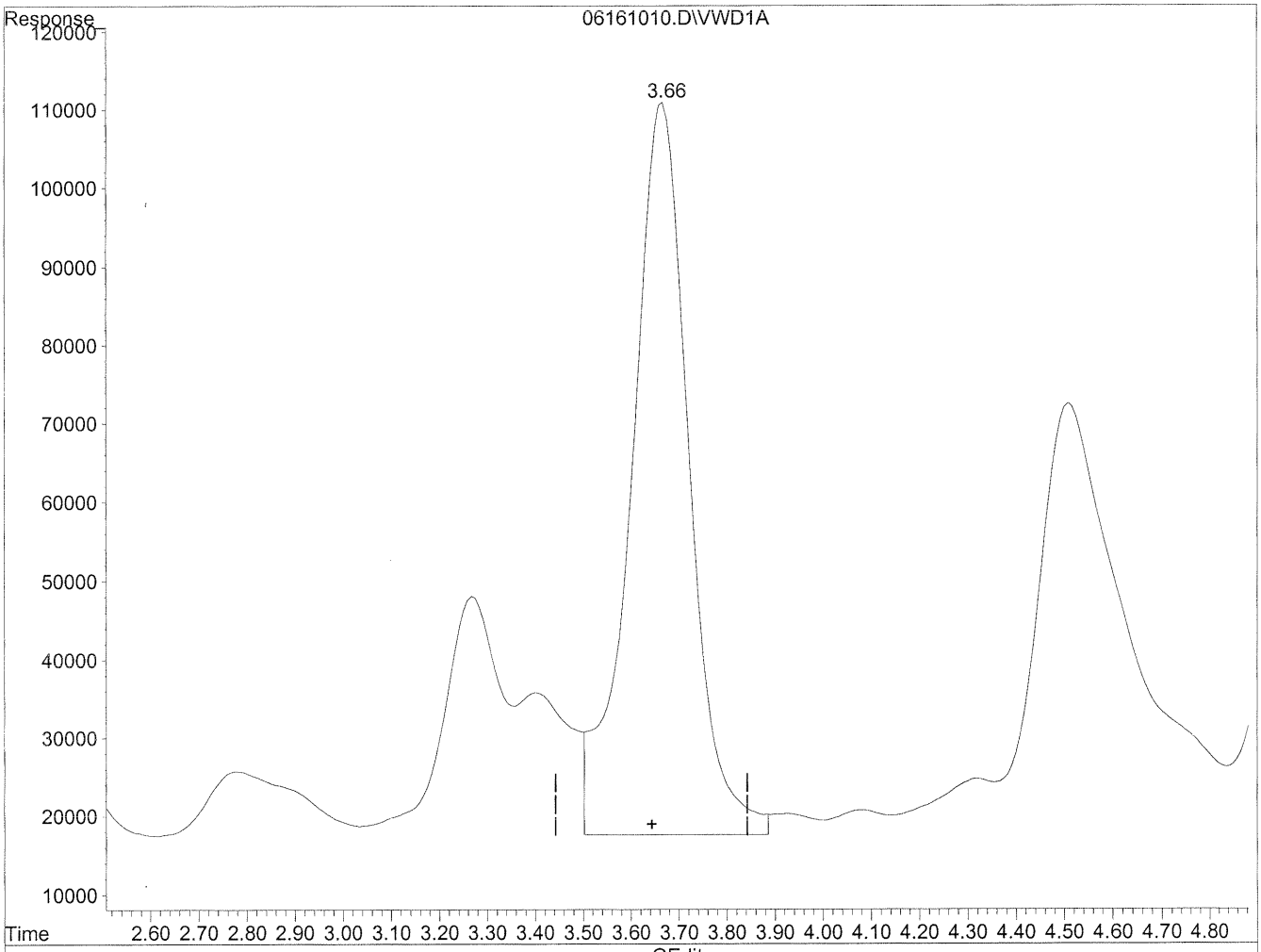
(+) = Expected Retention Time

06161010.D TO110510.M Thu Jun 17 10:15:31 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161010.D Vial: 106
Acq On : 16-Jun-2010, 10:59:27 Operator: HC/SM
Sample : P1001953-006 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:15 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.66min 1945.795ng/ml m

response 7840199

HC 6/17/10

BK

6/21/10

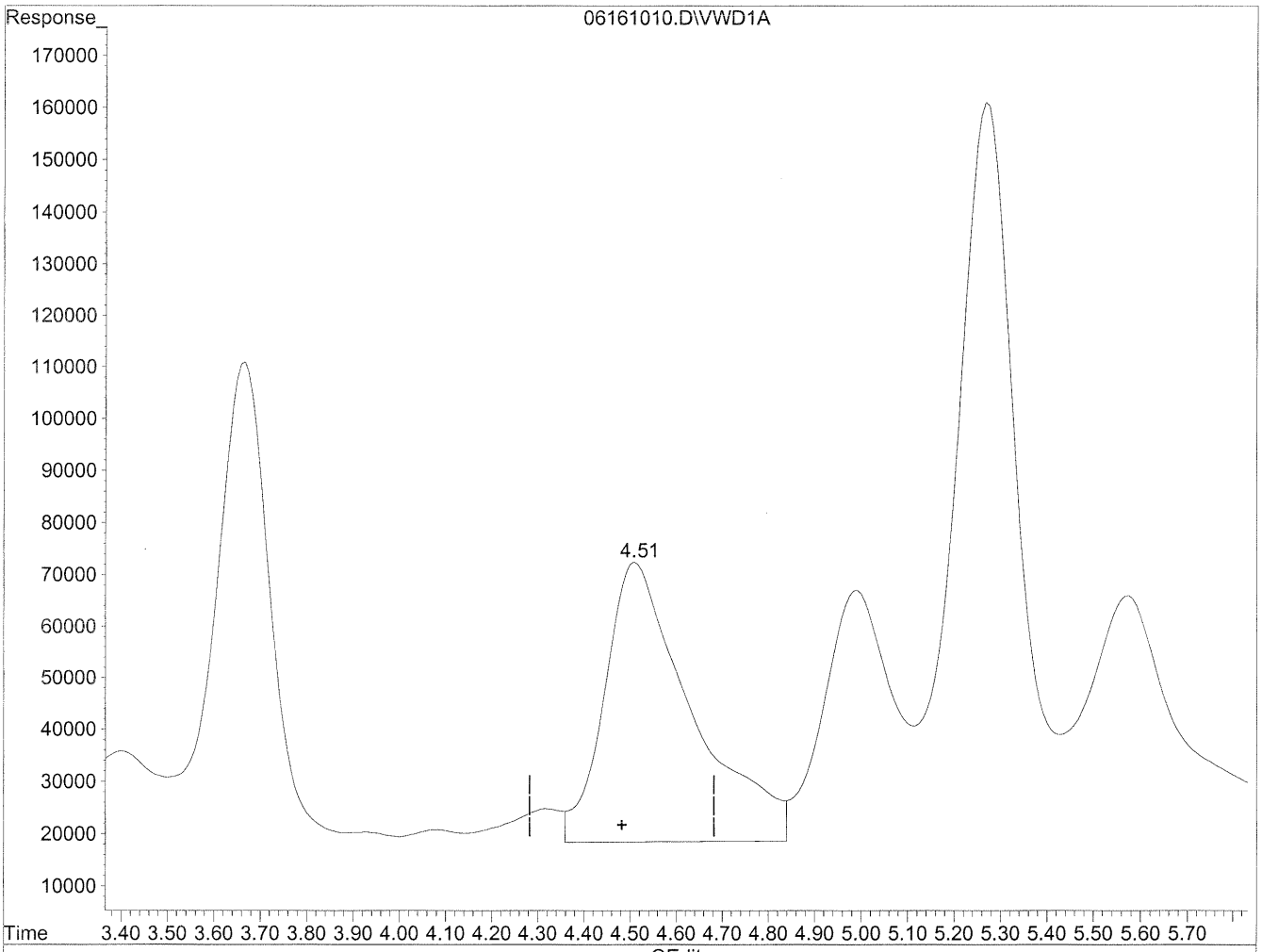
(+) = Expected Retention Time

06161010.D TO110510.M Thu Jun 17 10:16:03 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161010.D Vial: 106
Acq On : 16-Jun-2010, 10:59:27 Operator: HC/SM
Sample : P1001953-006 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:15 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



QEdit

(6) Benzaldehyde

4.51min 2600.060ng/ml

response 7037642

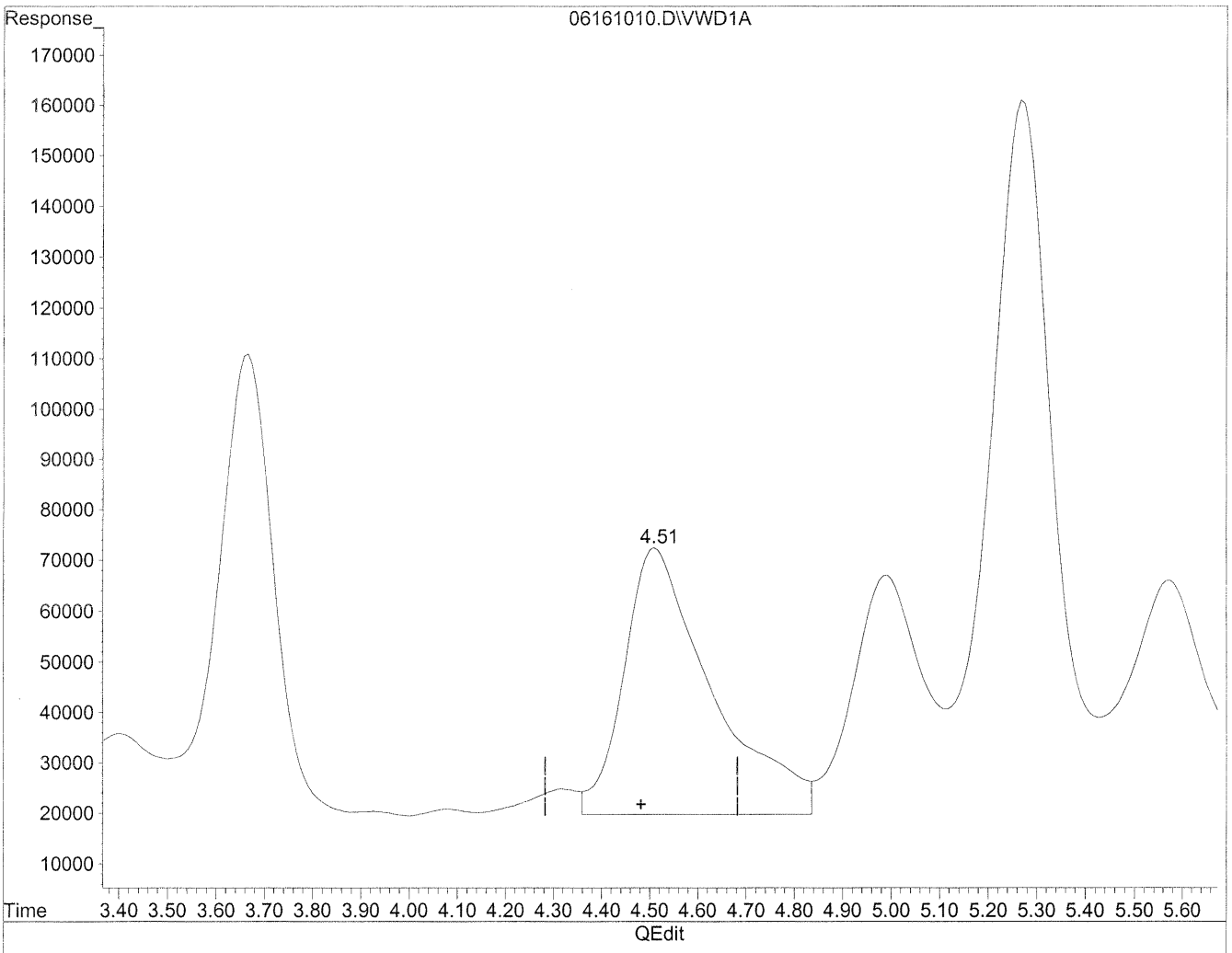
(+) = Expected Retention Time

06161010.D TO110510.M Thu Jun 17 10:16:07 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161010.D Vial: 106
Acq On : 16-Jun-2010, 10:59:27 Operator: HC/SM
Sample : P1001953-006 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:18 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.51min 2469.362ng/ml m

response 6683880

6/17/10

6/21/10

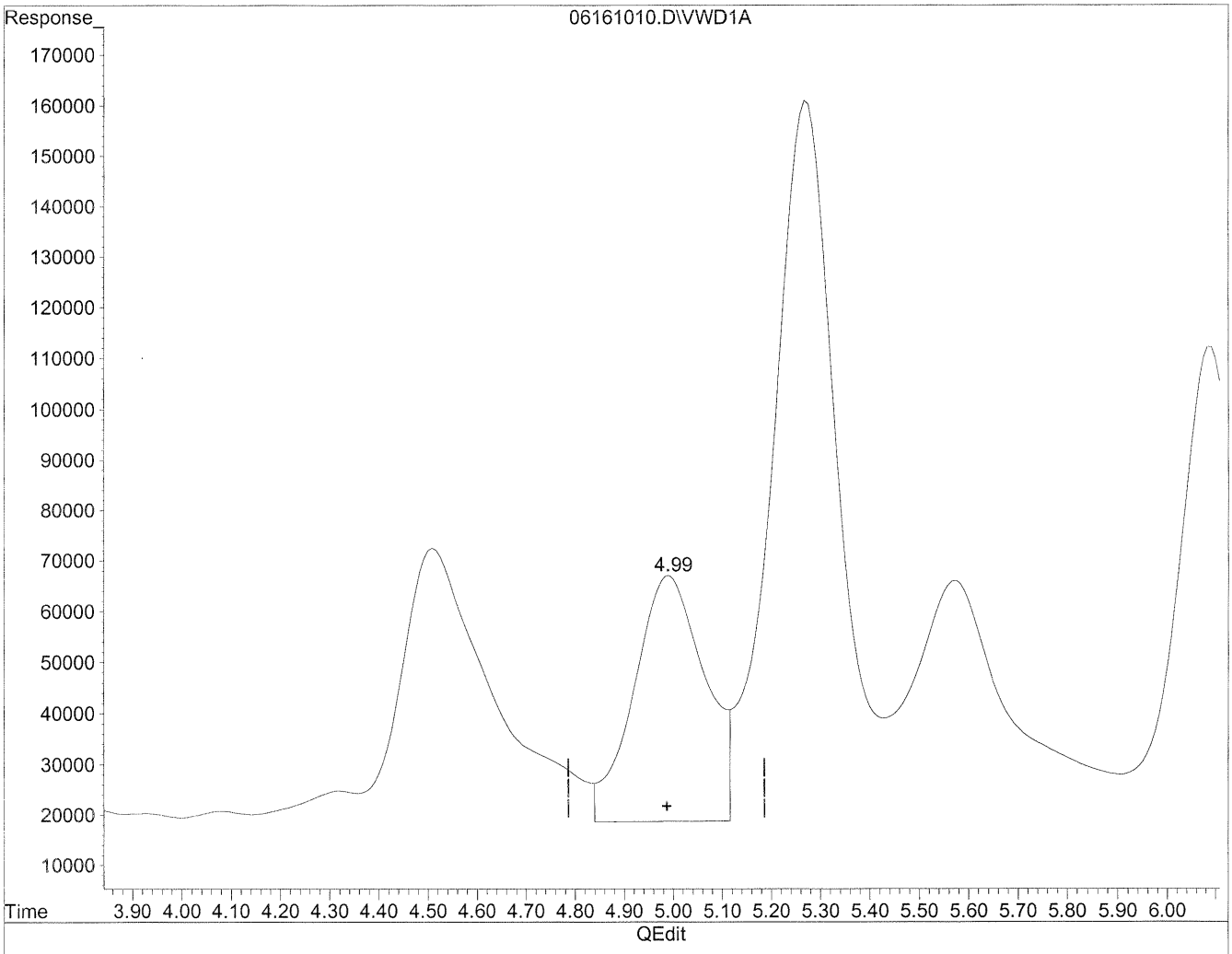
(+) = Expected Retention Time

06161010.D TO110510.M Thu Jun 17 15:45:43 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161010.D Vial: 106
Acq On : 16-Jun-2010, 10:59:27 Operator: HC/SM
Sample : P1001953-006 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:15 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.99min 1365.569ng/ml

response 4844637

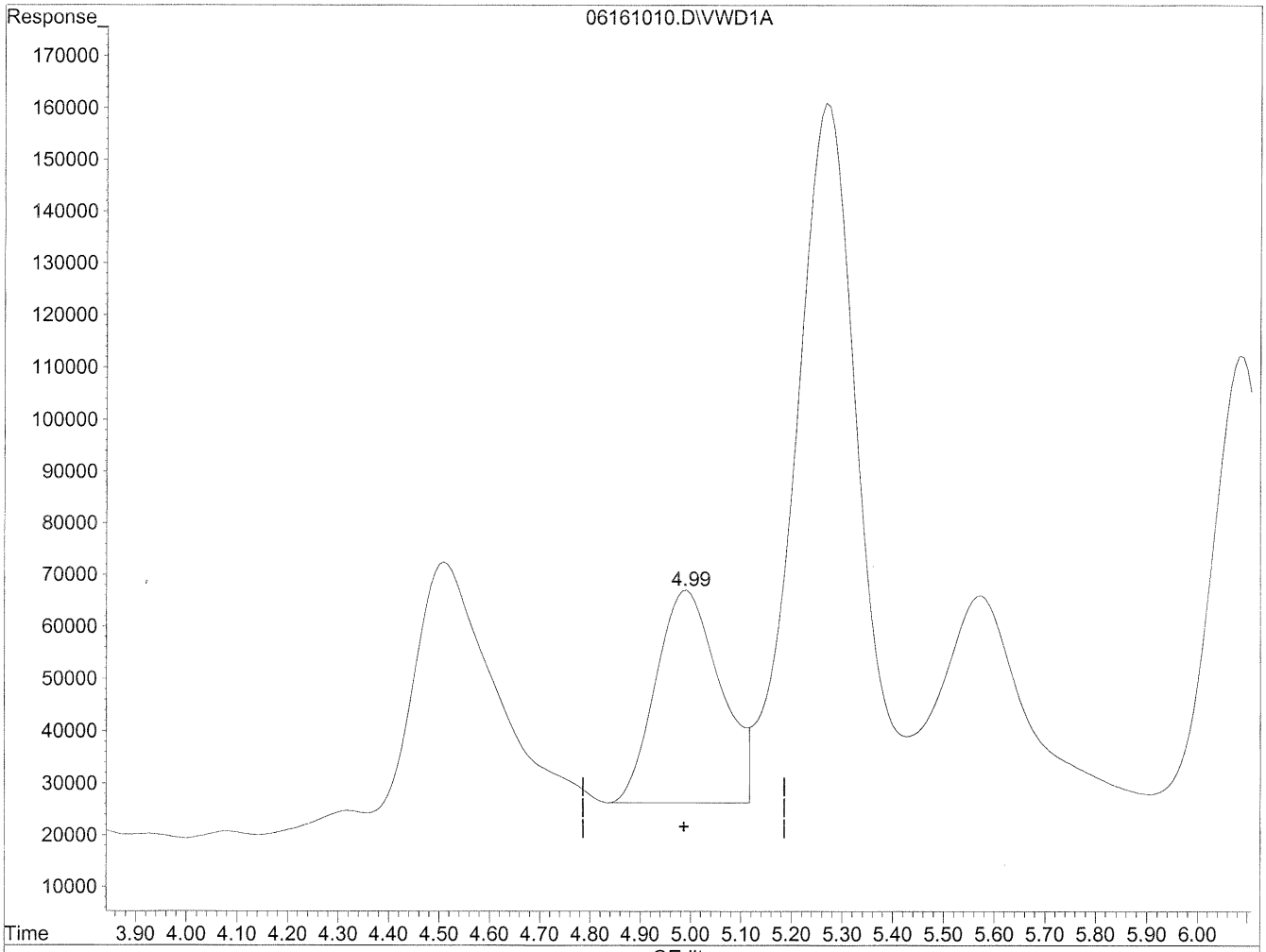
(+) = Expected Retention Time

06161010.D TO110510.M Thu Jun 17 10:16:36 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161010.D Vial: 106
Acq On : 16-Jun-2010, 10:59:27 Operator: HC/SM
Sample : P1001953-006 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:15 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.99min 1037.758ng/ml m

response 3681660

HC 6/17/10 BL

6/21/10

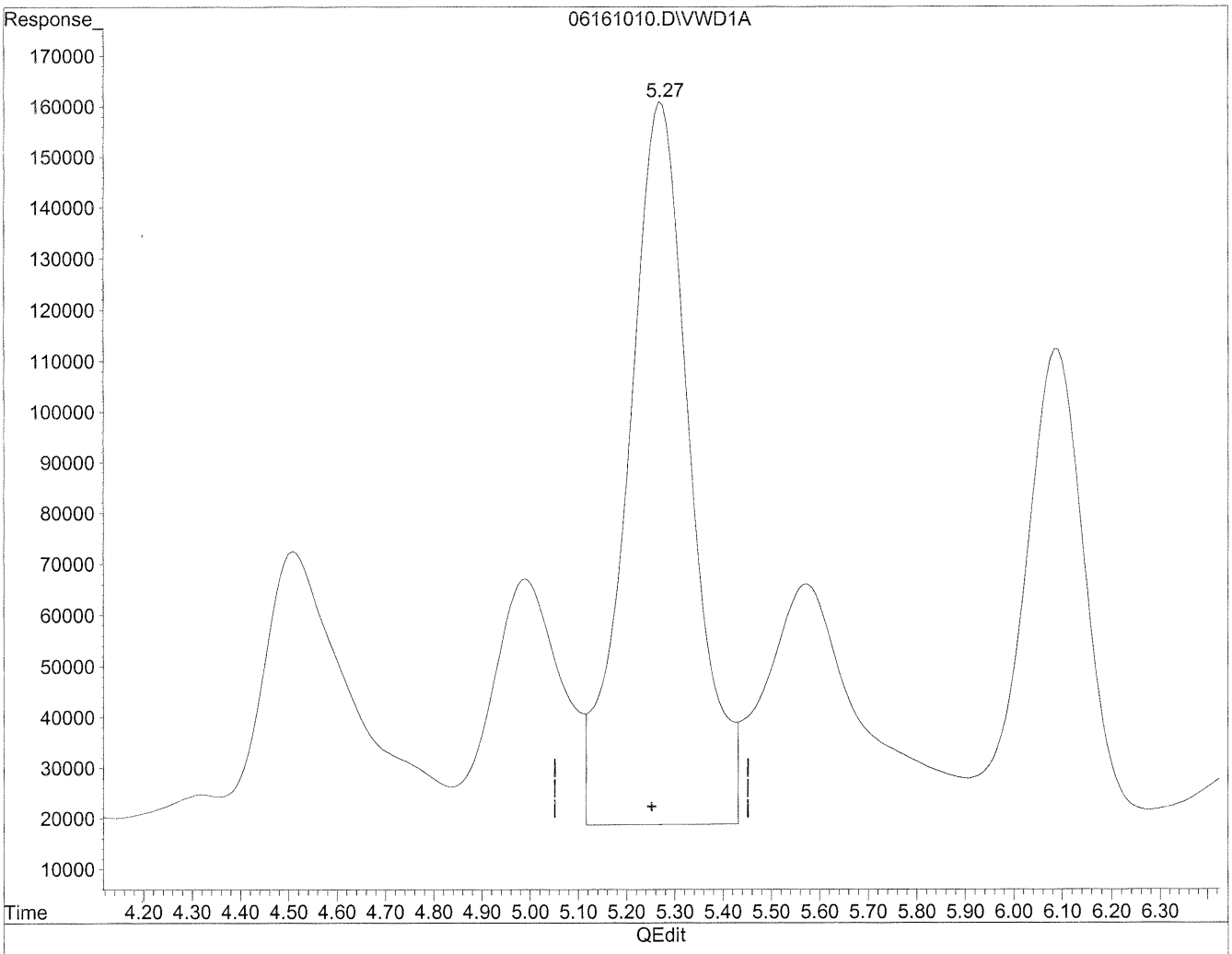
(+) = Expected Retention Time

06161010.D TO110510.M Thu Jun 17 10:17:00 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161010.D Vial: 106
Acq On : 16-Jun-2010, 10:59:27 Operator: HC/SM
Sample : P1001953-006 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:15 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.27min 3840.680ng/ml

response 12884002

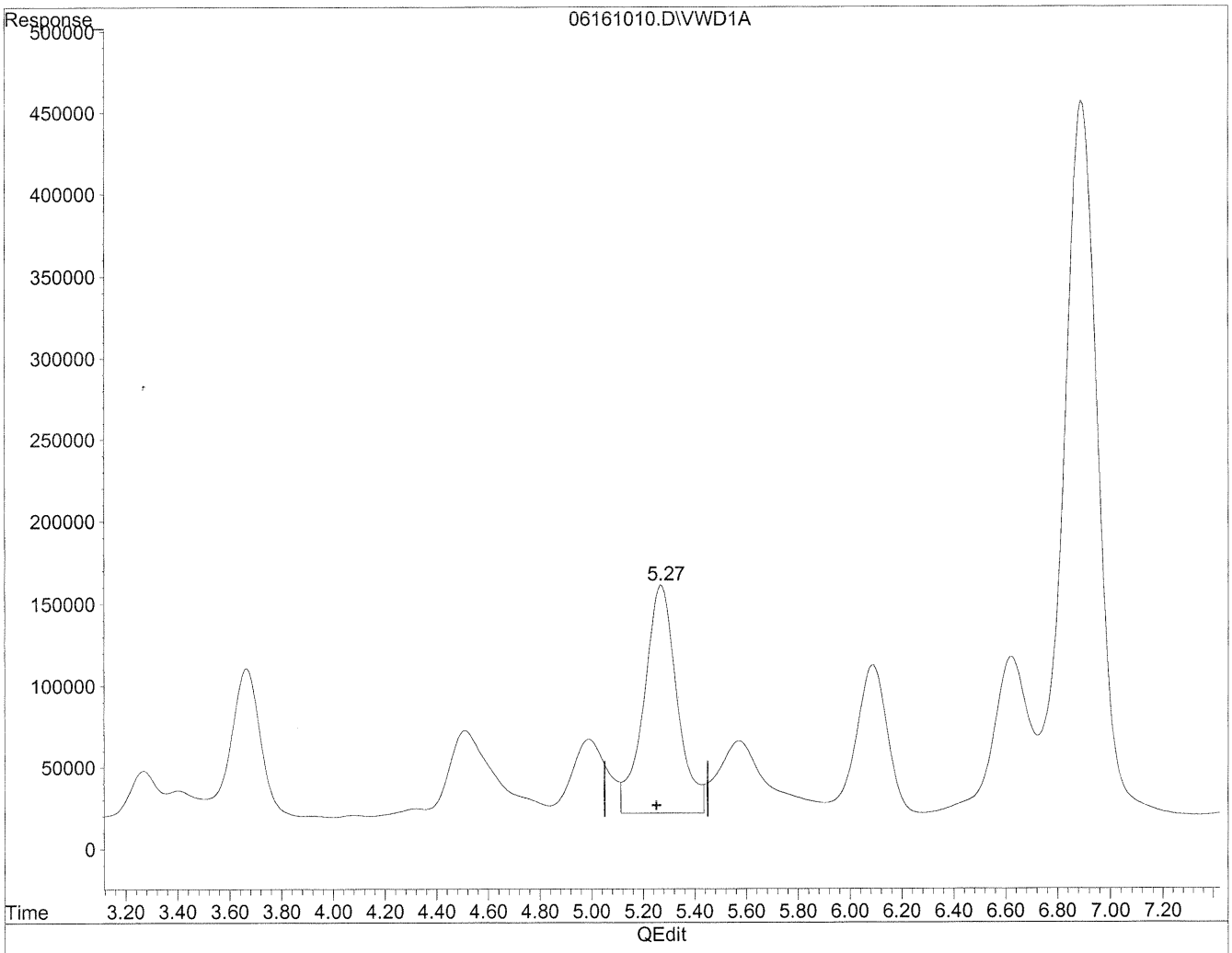
(+) = Expected Retention Time

06161010.D TO110510.M Thu Jun 17 10:17:04 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161010.D Vial: 106
Acq On : 16-Jun-2010, 10:59:27 Operator: HC/SM
Sample : P1001953-006 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:15 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.27min 3707.203ng/ml m

response 12436239

HC 6/17/10
BC

HW 6/21/10

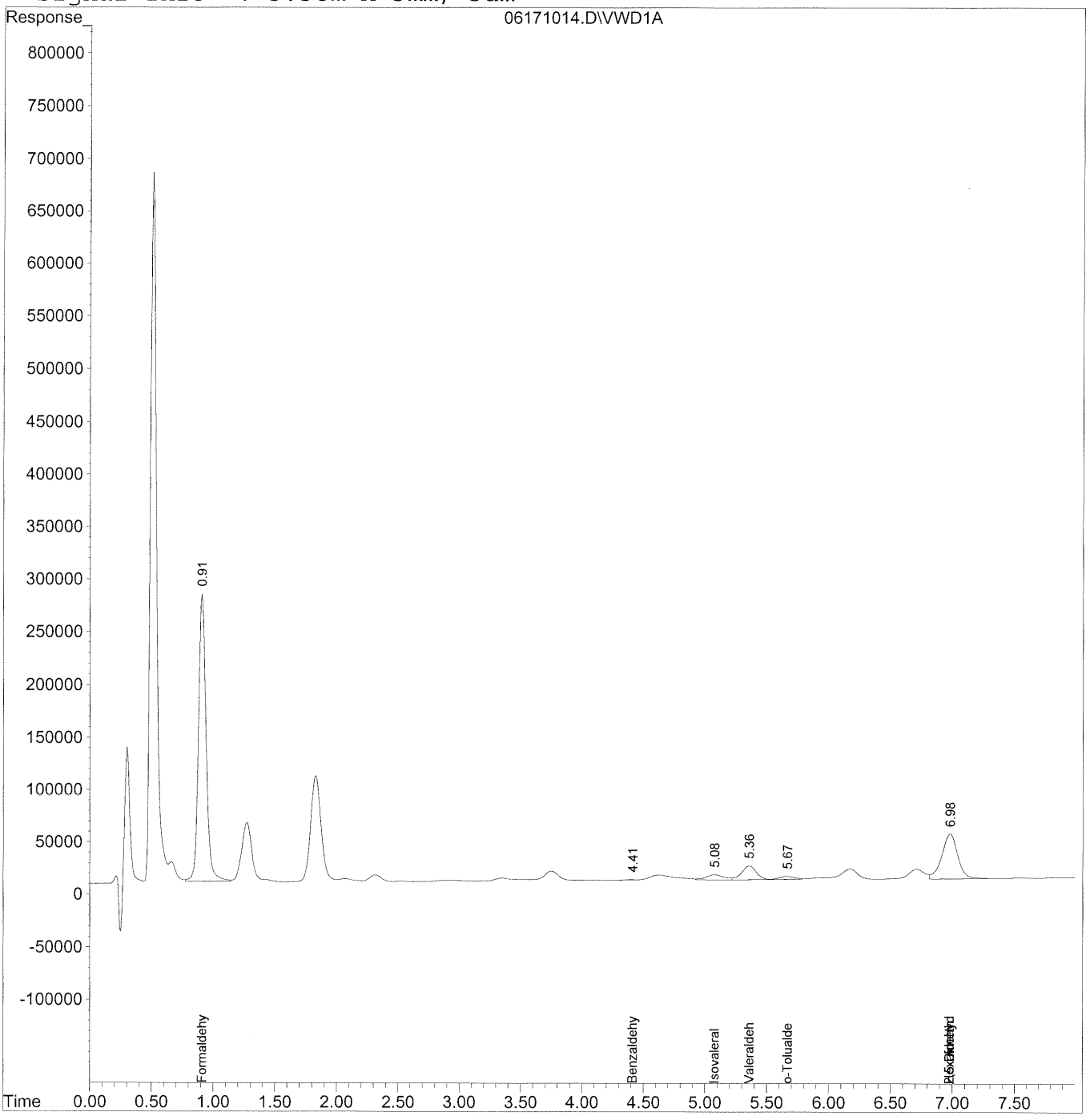
(+) = Expected Retention Time
06161010.D TO110510.M Thu Jun 17 10:18:11 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171014.D Vial: 110
Acq On : 17-Jun-2010, 11:50:01 Operator: HC/SM
Sample : P1001953-006 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:22 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171014.D Vial: 110
Acq On : 17-Jun-2010, 11:50:01 Operator: HC/SM
Sample : P1001953-006 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:22 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

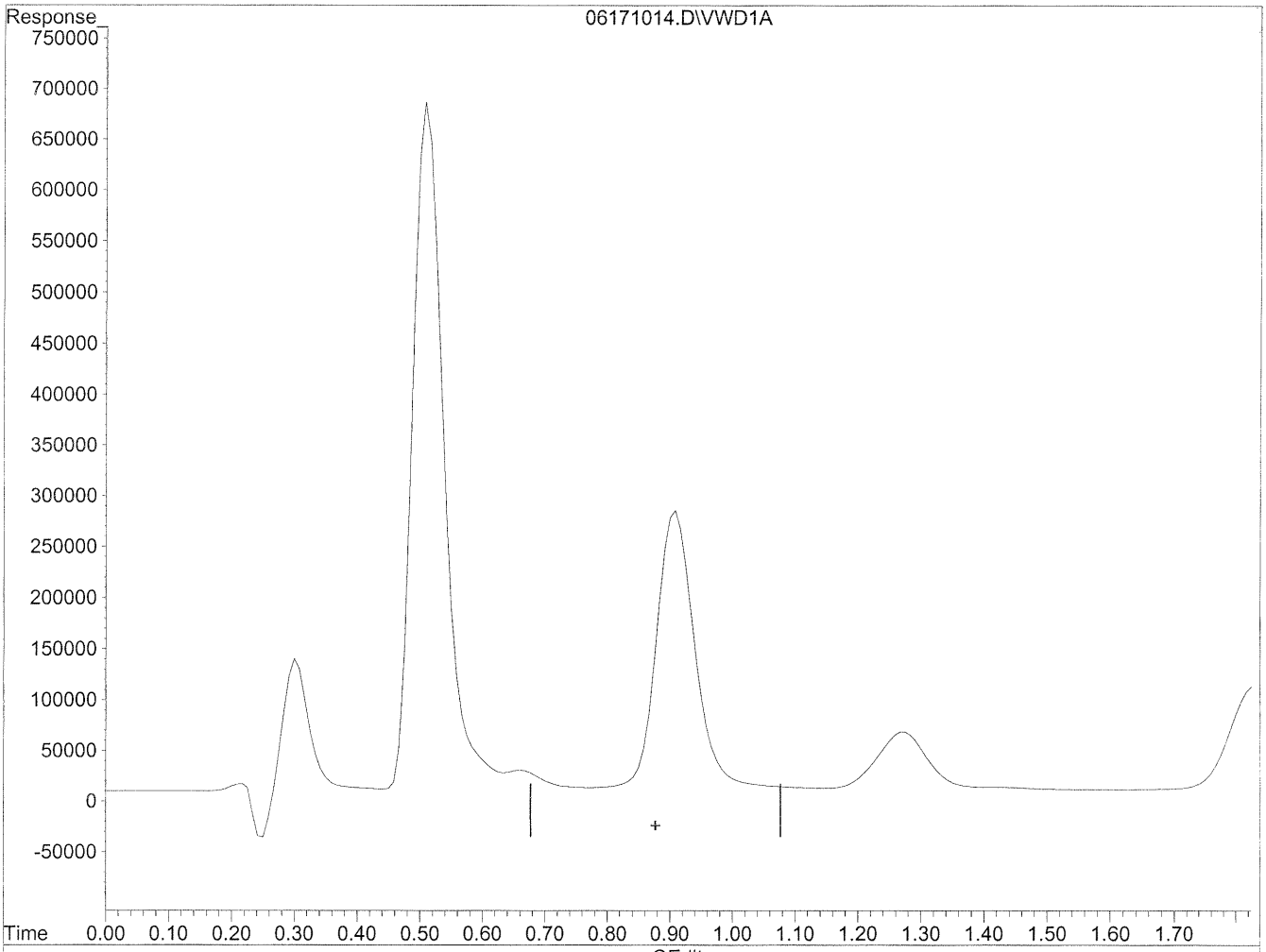
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.91	11825584	1267.089	ng/mlm
2)	Acetaldehyde	0.00	0	N.D.	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	4.41	31410	11.604	ng/ml
7)	Isovaleraldehyde	5.08f	488428	137.674	ng/ml
8)	Valeraldehyde	5.36f	1079741	321.867	ng/ml
9)	o-Tolualdehyde	5.67	260640	128.045	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.98f	3795104	1319.865	ng/ml
12)	2,5-Dimethylbenzaldehyde	6.98	3795104	1972.467	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171014.D Vial: 110
Acq On : 17-Jun-2010, 11:50:01 Operator: HC/SM
Sample : P1001953-006 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 12:12 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.88min 0.000ng/ml

response 0

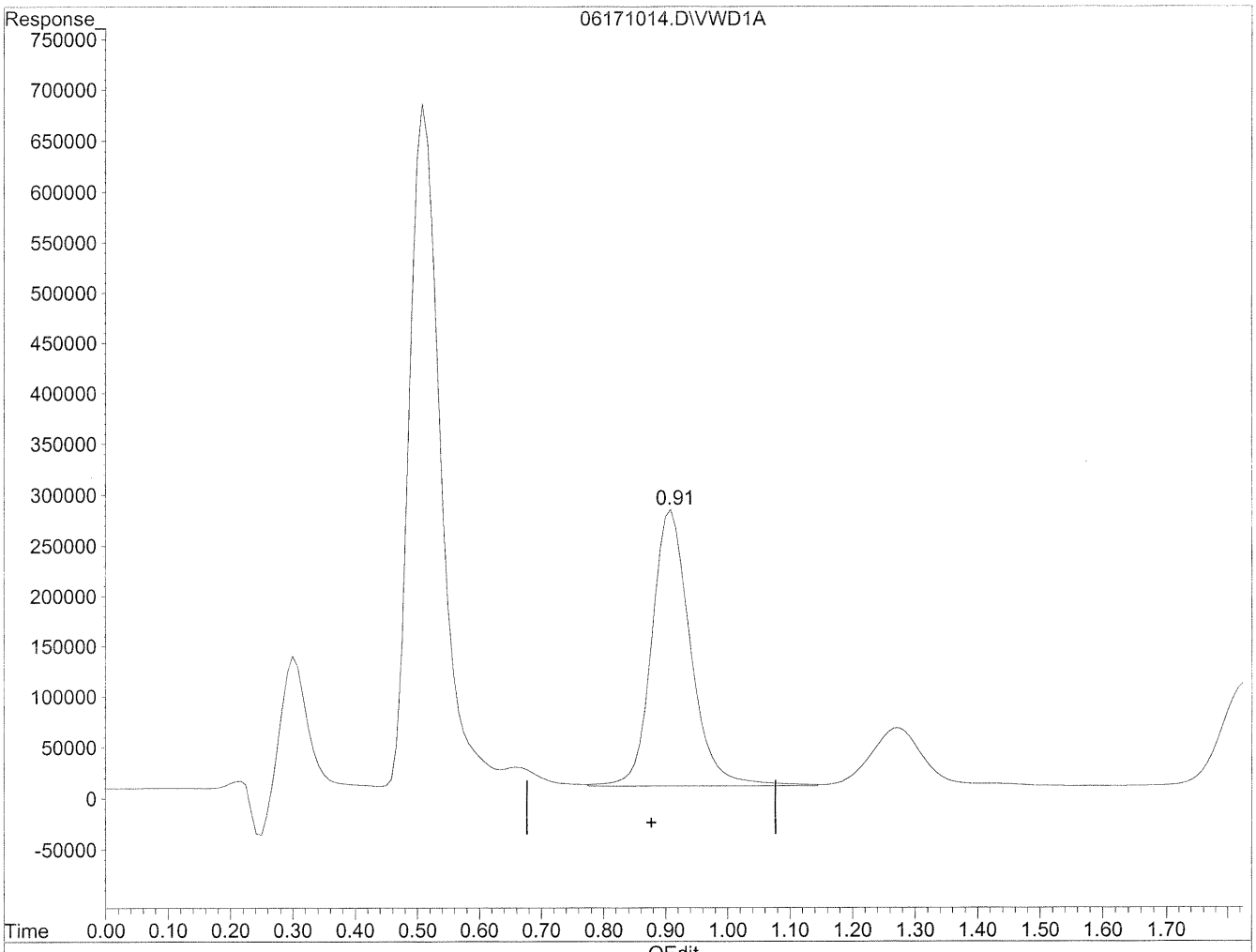
(+) = Expected Retention Time

06171014.D TO110510.M Fri Jun 18 08:22:04 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171014.D Vial: 110
Acq On : 17-Jun-2010, 11:50:01 Operator: HC/SM
Sample : P1001953-006 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 12:12 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.91min 1267.089ng/ml m

response 11825584

6/18/10

6/21/10

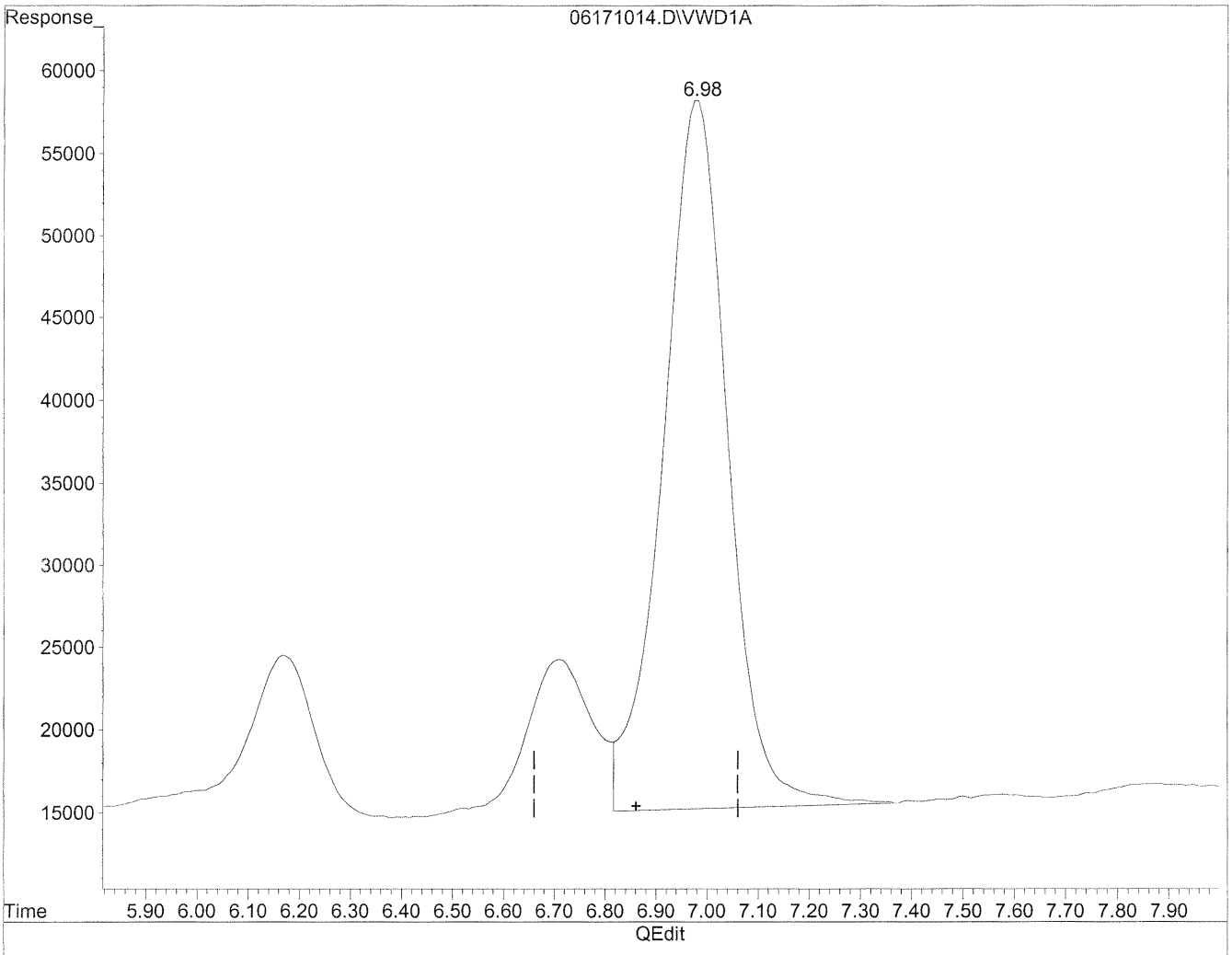
(+) = Expected Retention Time

06171014.D TO110510.M Fri Jun 18 08:22:22 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171014.D Vial: 110
Acq On : 17-Jun-2010, 11:50:01 Operator: HC/SM
Sample : P1001953-006 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 12:12 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.98min 1319.865ng/ml

response 3795104

(+) = Expected Retention Time

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111053**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-007

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/16 - 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 18760 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**27**	**14**	0.11	**12**	0.088	
75-07-0	**Acetaldehyde**	**9.0**	**5.7**	0.13	**3.2**	0.070	
123-38-6	**Propionaldehyde**	**2.1**	**2.9**	0.27	**1.2**	0.12	
123-72-8	**Butyraldehyde**	**3.6**	**17**	0.97	**5.9**	0.33	
100-52-7	**Benzaldehyde**	**4.1**	**2.4**	0.12	**0.55**	0.027	
590-86-3	**Isovaleraldehyde**	**2.0**	**1.7**	0.17	**0.49**	0.050	
110-62-3	**Valeraldehyde**	**7.2**	**14**	0.39	**4.0**	0.11	
66-25-1	**n-Hexaldehyde**	**24**	**72**	0.59	**17**	0.14	

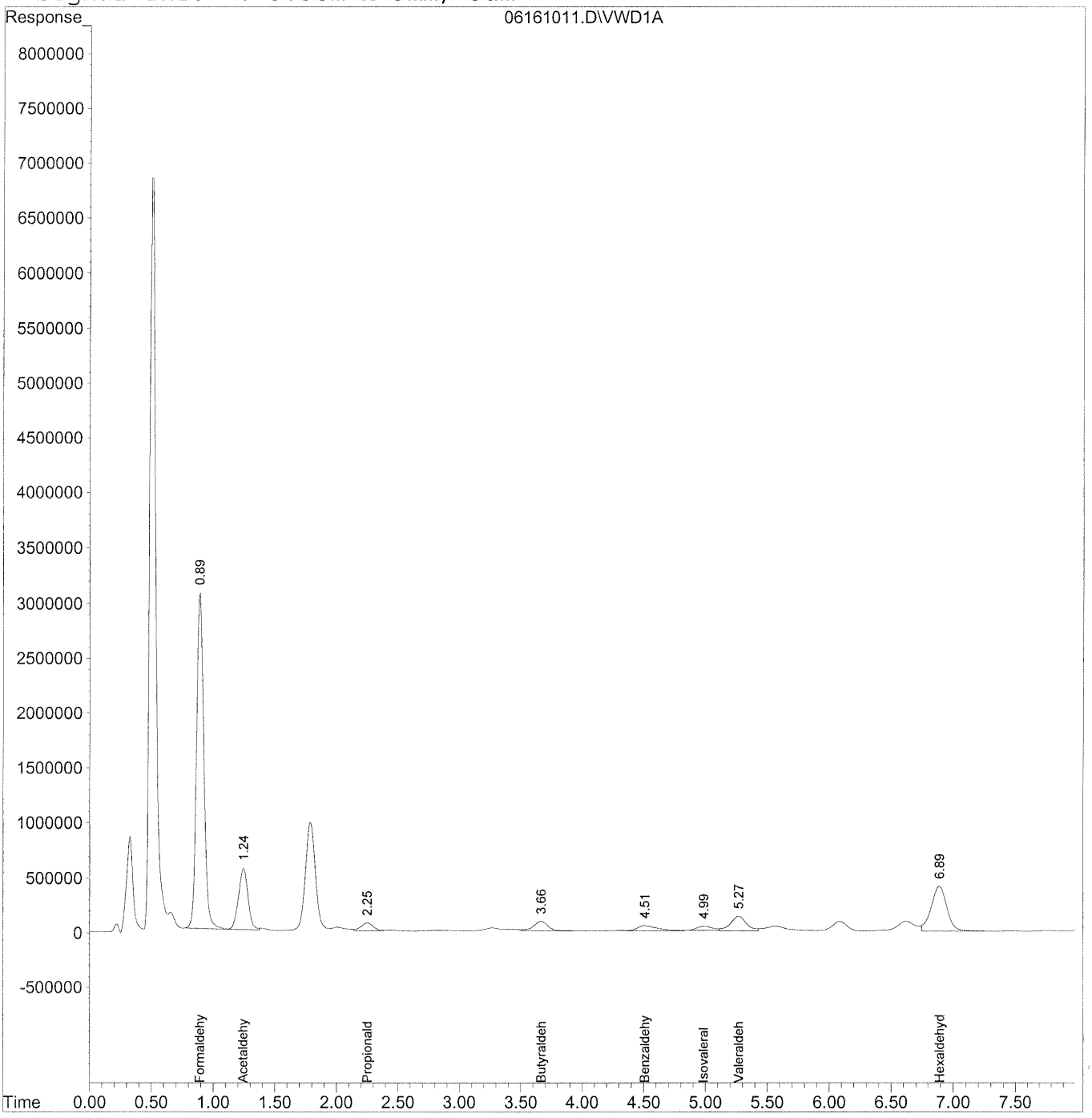
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: RC Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 10:54 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 10:54 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

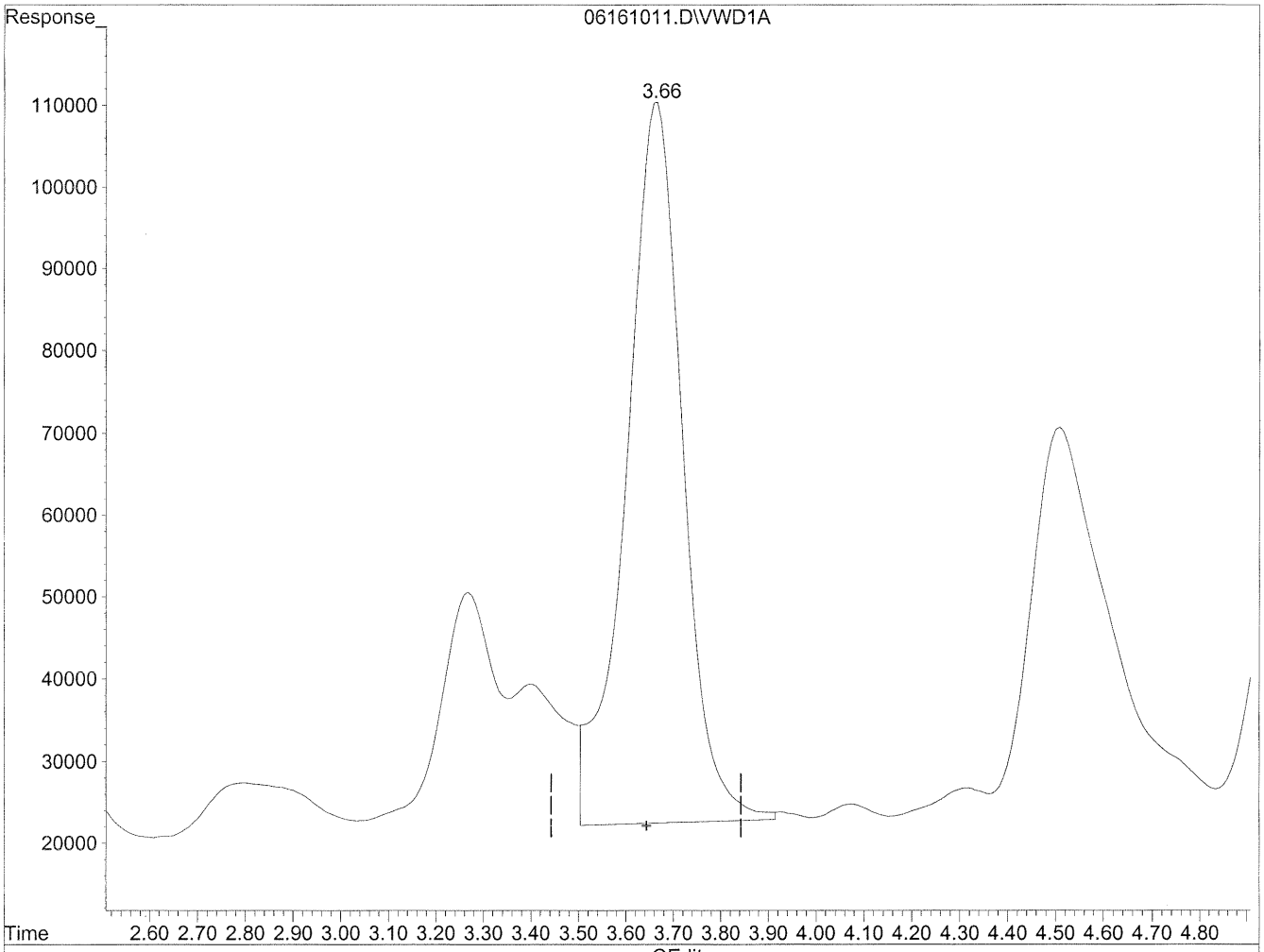
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	125327656	13428.623	ng/ml
2)	Acetaldehyde	1.25	30230730	4488.450	ng/ml
3)	Propionaldehyde	2.25	5139852	1057.143	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.66	7236027	1795.850	ng/mlm
6)	Benzaldehyde	4.51	5600717	2069.187	ng/mlm
7)	Isovaleraldehyde	4.99	3504602	987.850	ng/mlm
8)	Valeraldehyde	5.27	12070760	3598.255	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.89	35947080	12501.709	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10:04 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:16 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.67min 1808.573ng/ml

response 7287291

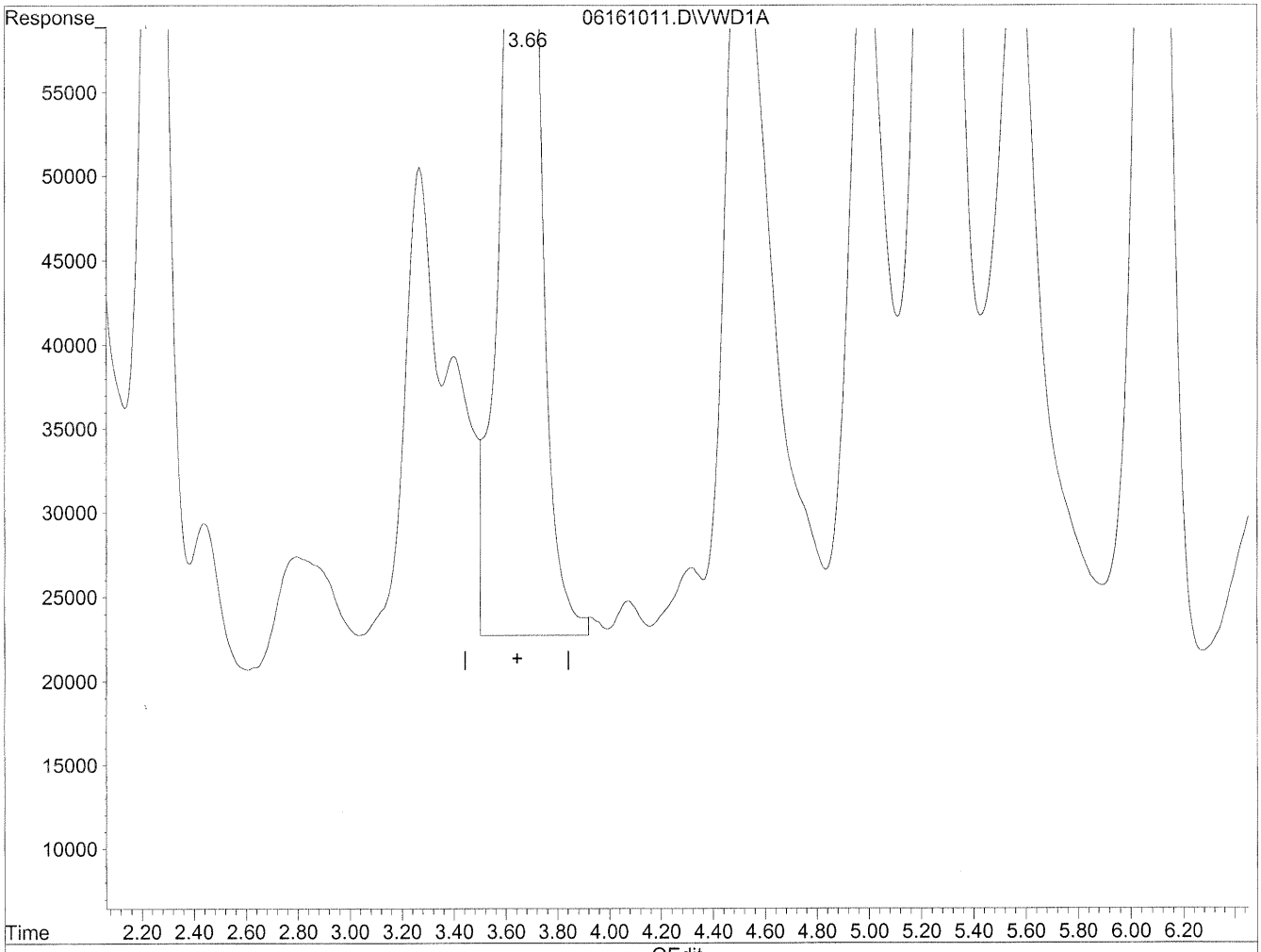
(+) = Expected Retention Time

06161011.D TO110510.M Thu Jun 17 10:24:01 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10:04 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:16 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.66min 1795.850ng/ml m

response 7236027

#C 6/17/10

6/21/10

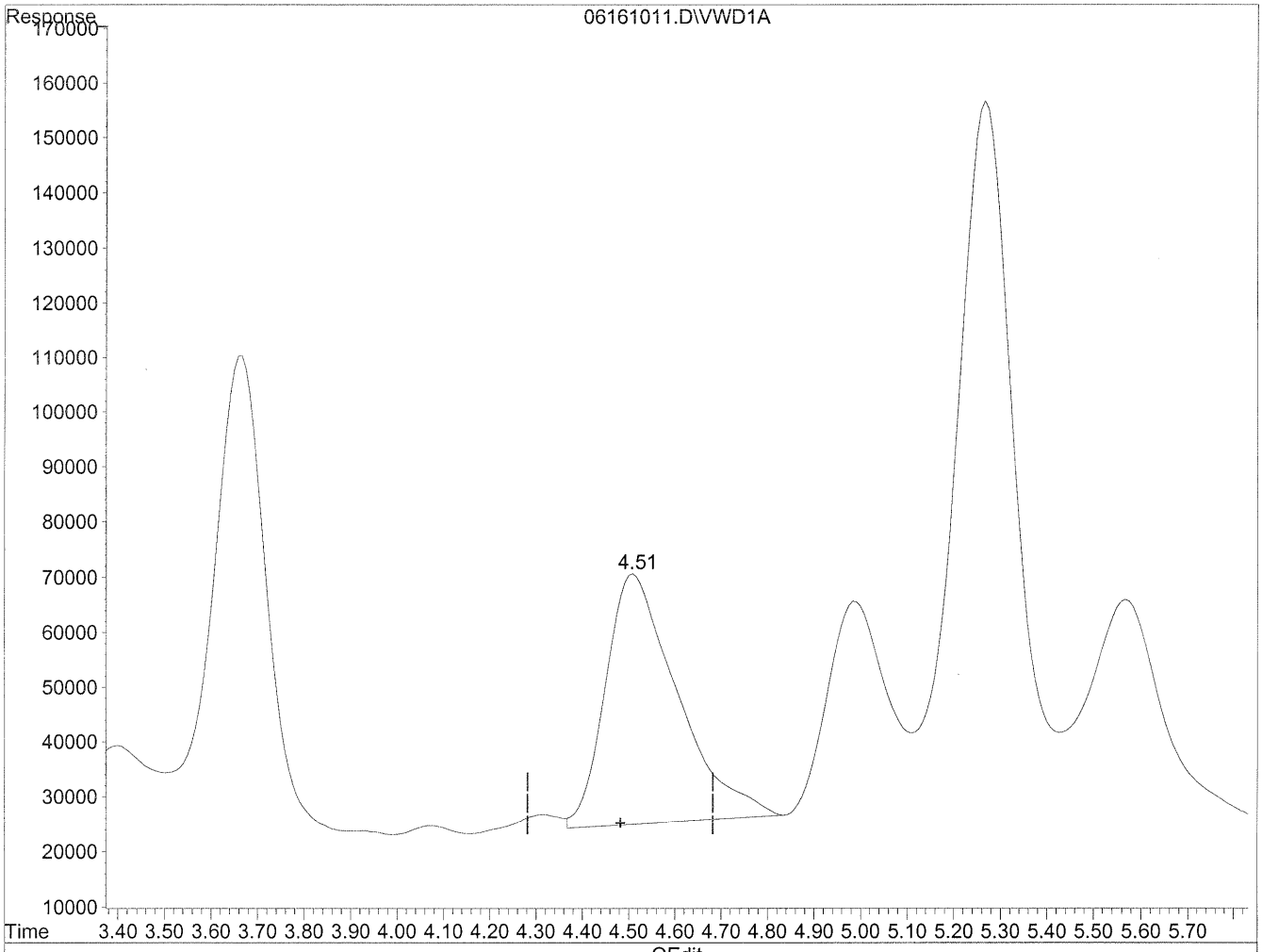
(+) = Expected Retention Time

06161011.D TO110510.M Thu Jun 17 10:25:18 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10:04 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:16 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.51min 1820.660ng/ml

response 4928023

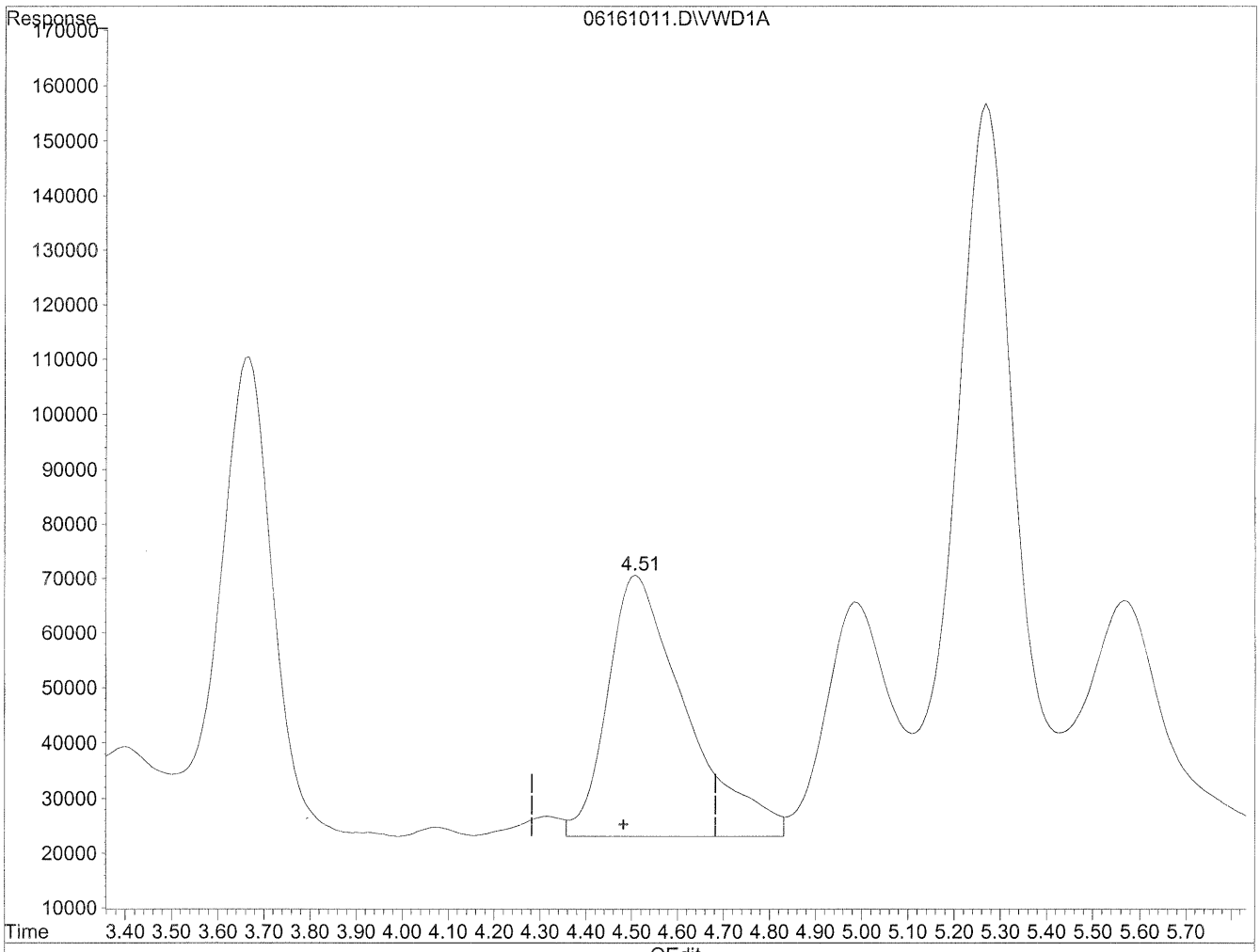
(+) = Expected Retention Time

06161011.D TO110510.M Thu Jun 17 10:25:25 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10:04 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:16 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.51min 2069.187ng/ml m

response 5600717

HC 6/17/10
BC

6/21/10

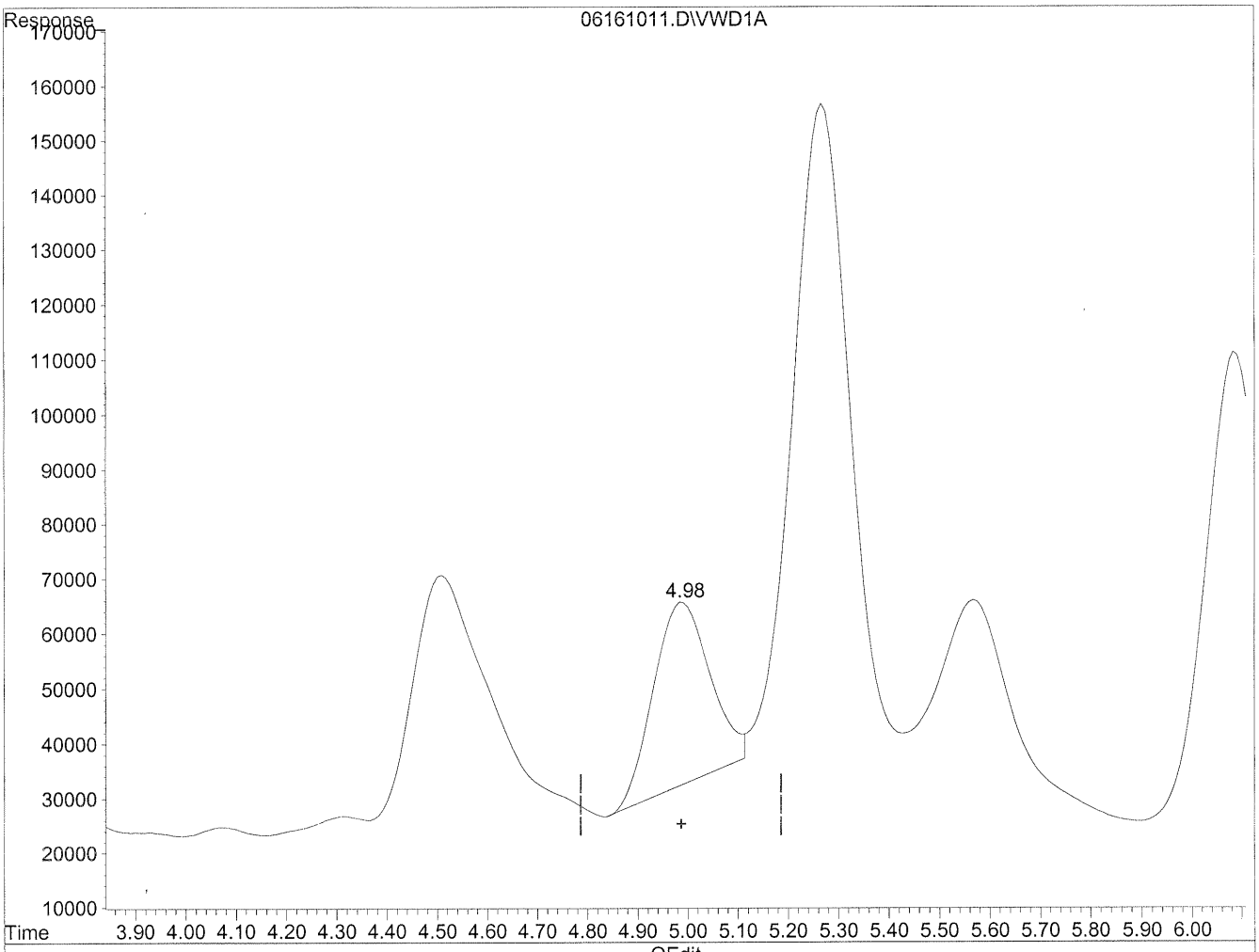
(+) = Expected Retention Time

06161011.D TO110510.M Thu Jun 17 10:26:55 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10:04 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:16 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.99min 727.698ng/ml

response 2581657

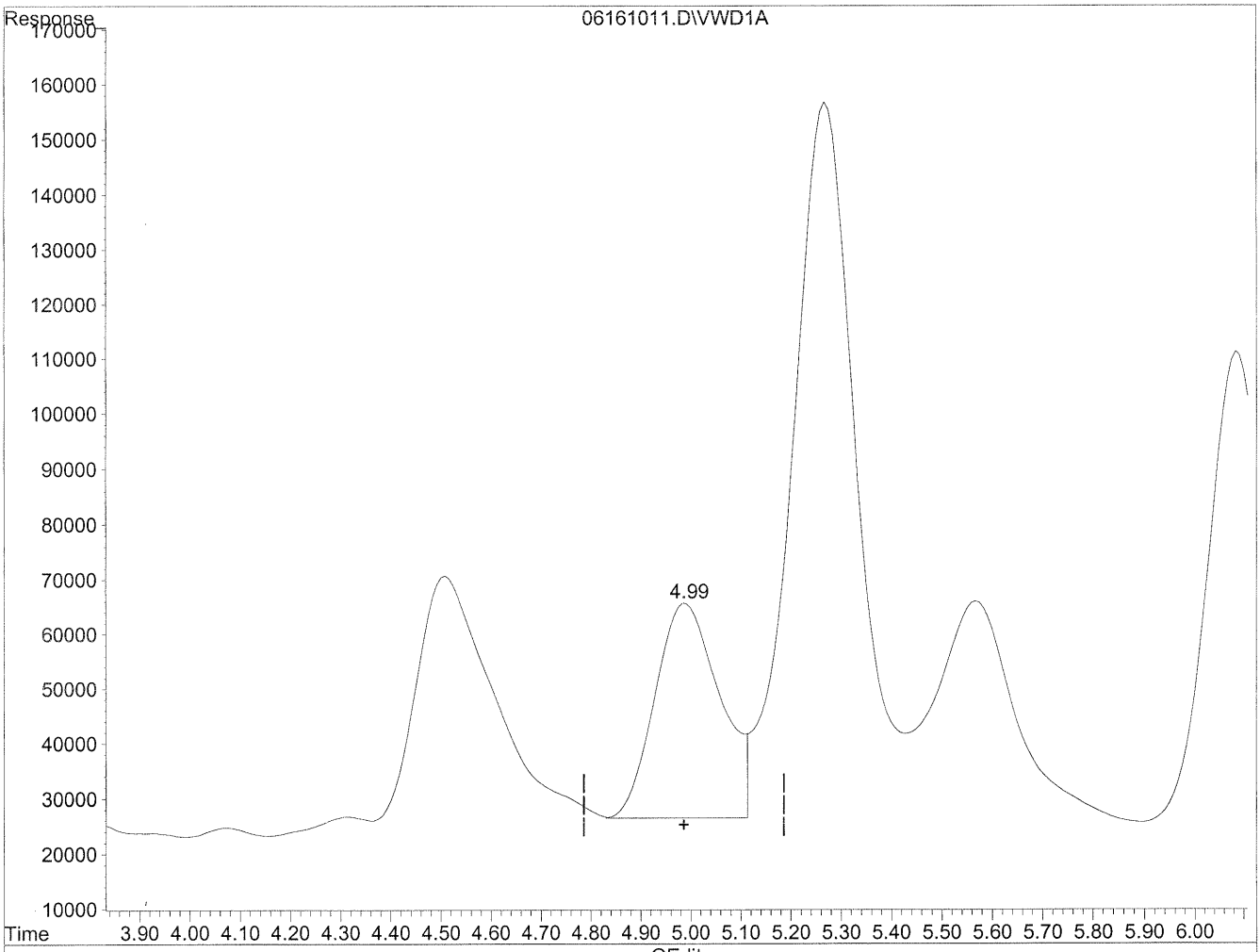
(+) = Expected Retention Time

06161011.D TO110510.M Thu Jun 17 10:26:59 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10:04 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:16 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.99min 987.850ng/ml m

response 3504602

TC 6/17/10 BC

6/21/10

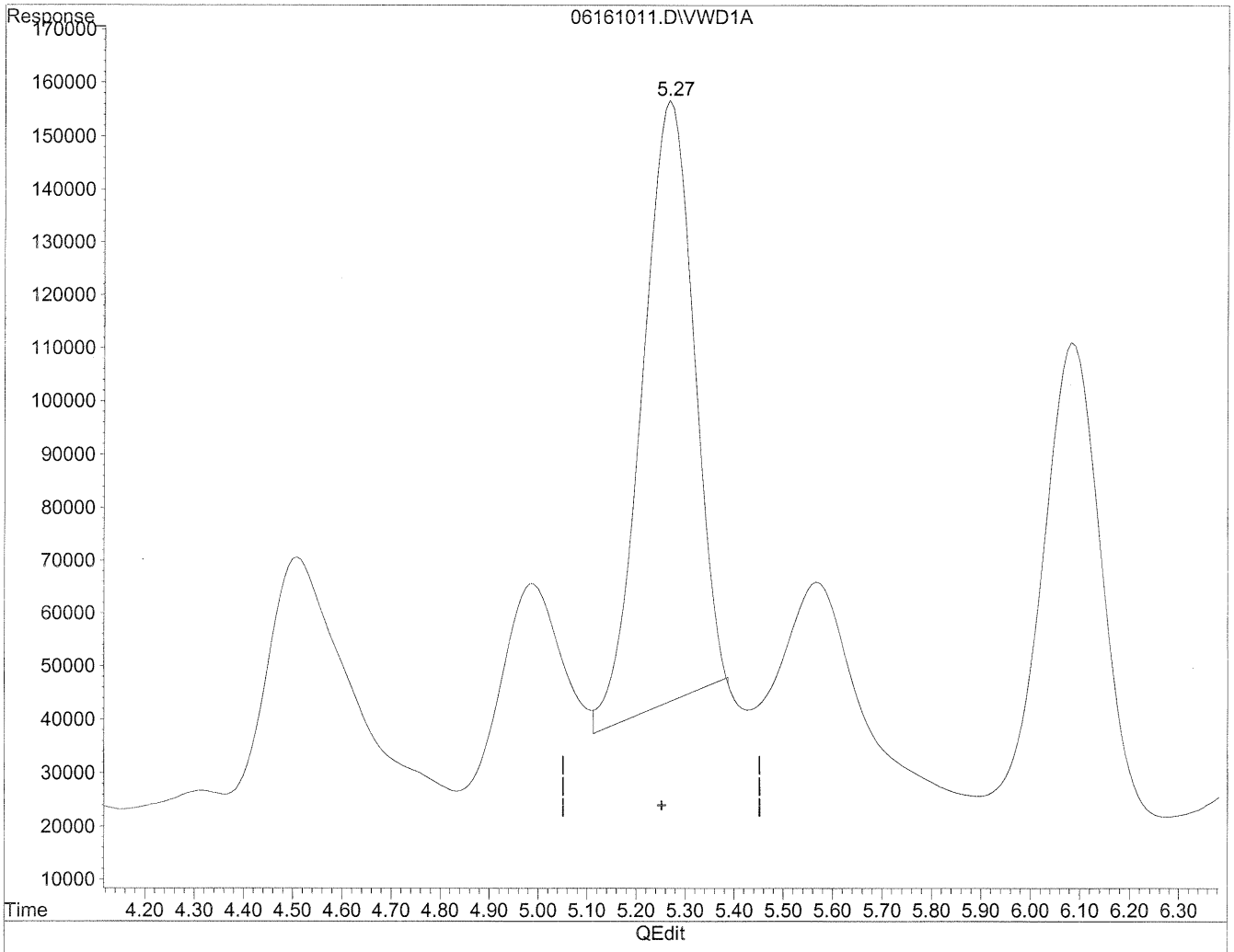
(+) = Expected Retention Time

06161011.D TO110510.M Thu Jun 17 10:27:08 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10:04 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:16 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.27min 2390.347ng/ml

response 8018694

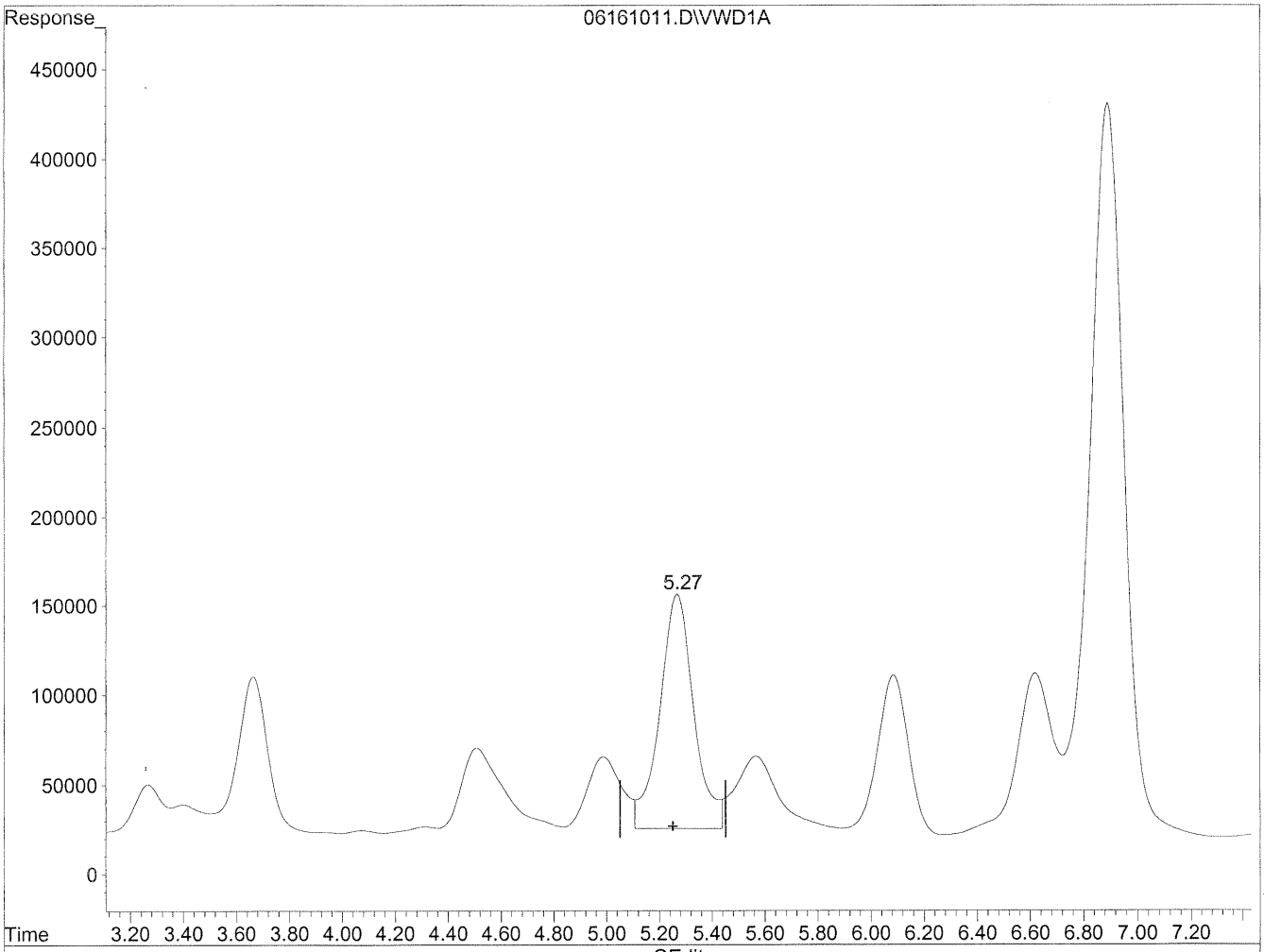
(+) = Expected Retention Time

06161011.D TO110510.M Thu Jun 17 10:27:12 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10:04 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:16 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.27min 3474.503ng/ml m

response 11655618

HC 6/17/10 BC

See next page. fixed BC 6/21/10

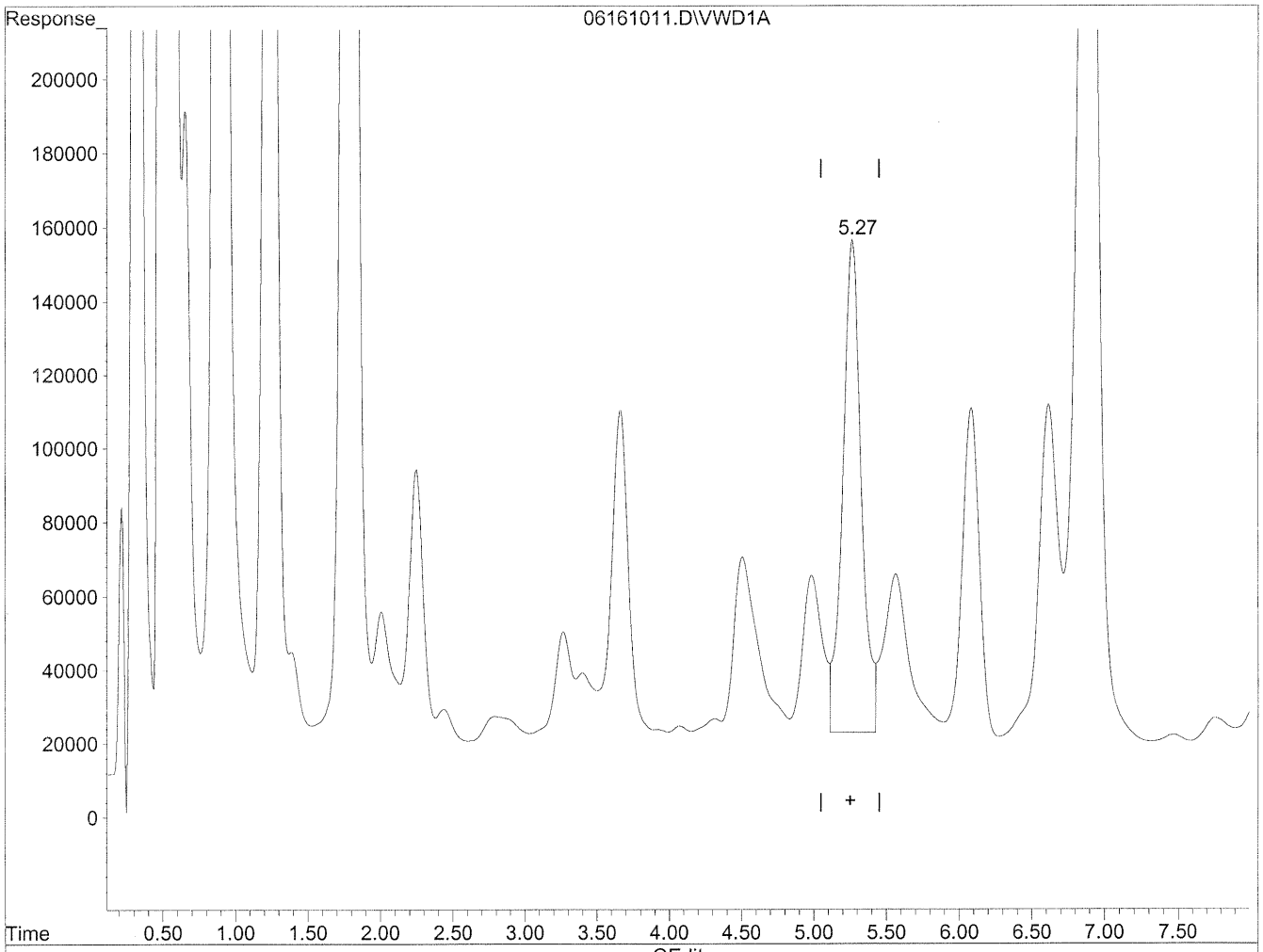
(+) = Expected Retention Time

06161011.D TO110510.M Thu Jun 17 10:27:36 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 10:53 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.27min 3598.255ng/ml m

response 12070760

fixed BL MP 6/21/10

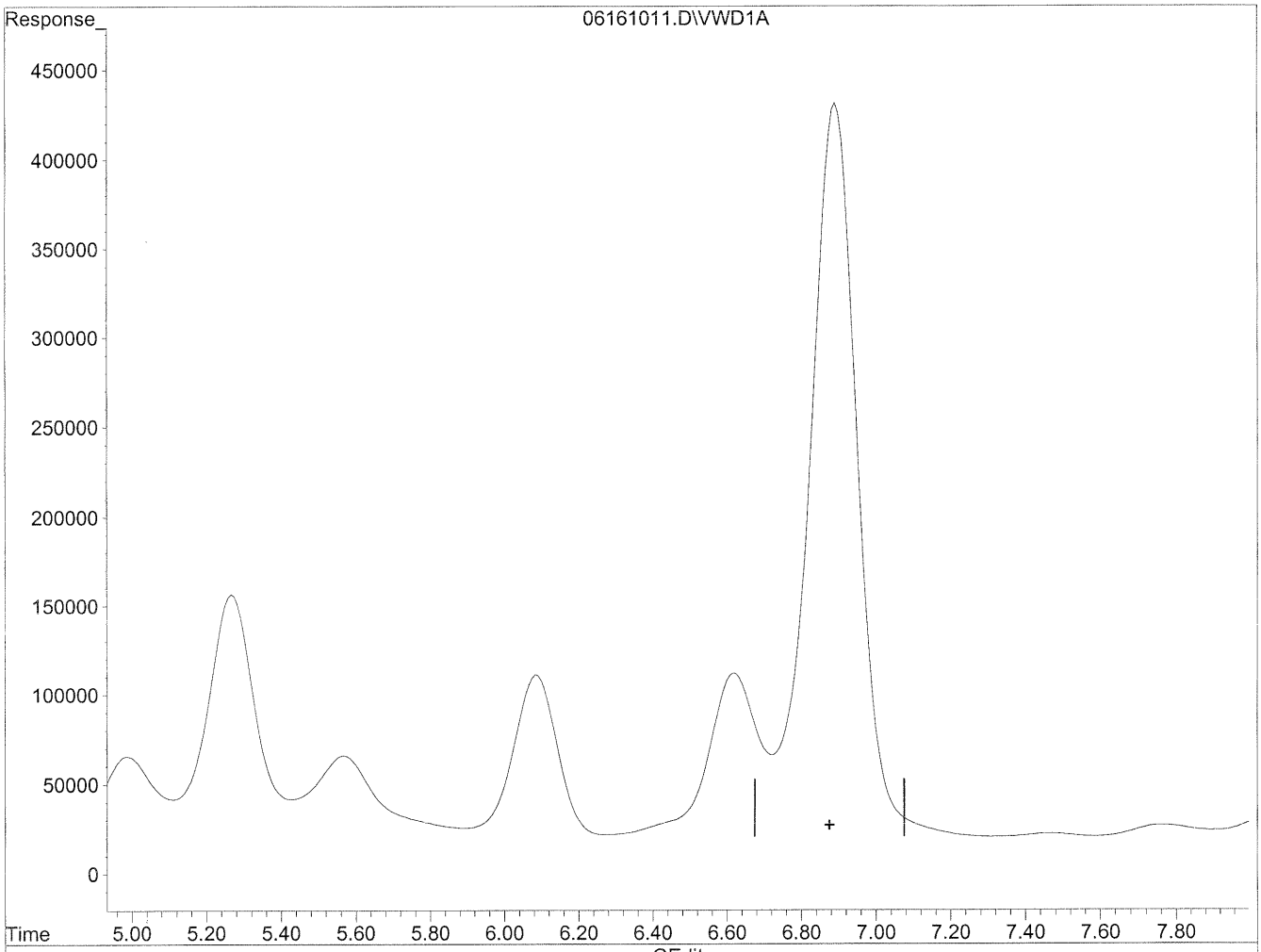
(+) = Expected Retention Time

06161011.D TO110510.M Mon Jun 21 10:54:38 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10:04 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:16 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.88min 0.000ng/ml

response 0

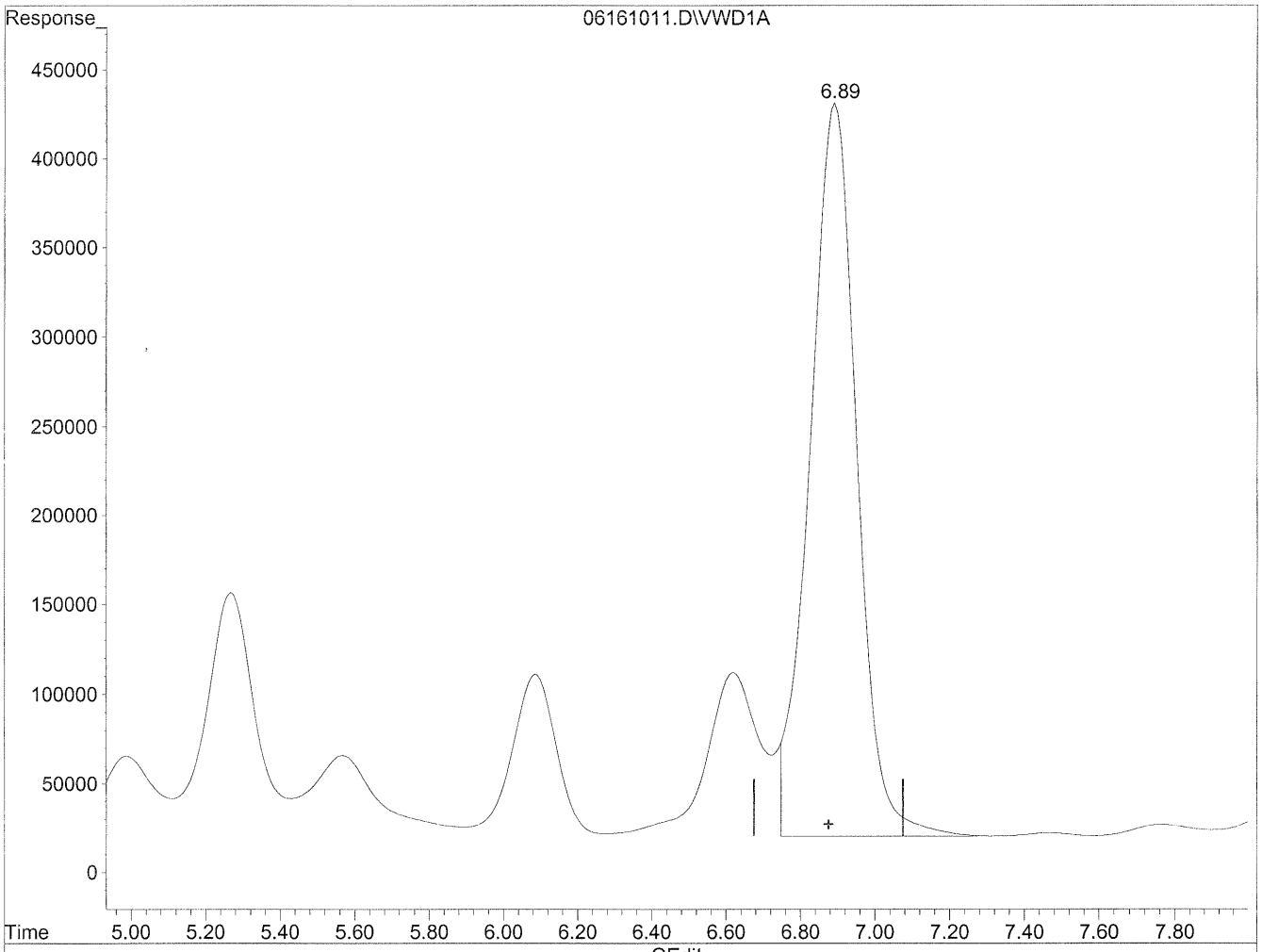
(+) = Expected Retention Time

06161011.D TO110510.M Thu Jun 17 10:27:45 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161011.D Vial: 107
Acq On : 16-Jun-2010, 11:10:04 Operator: HC/SM
Sample : P1001953-007 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:16 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.89min 12501.709ng/ml m

response 35947080

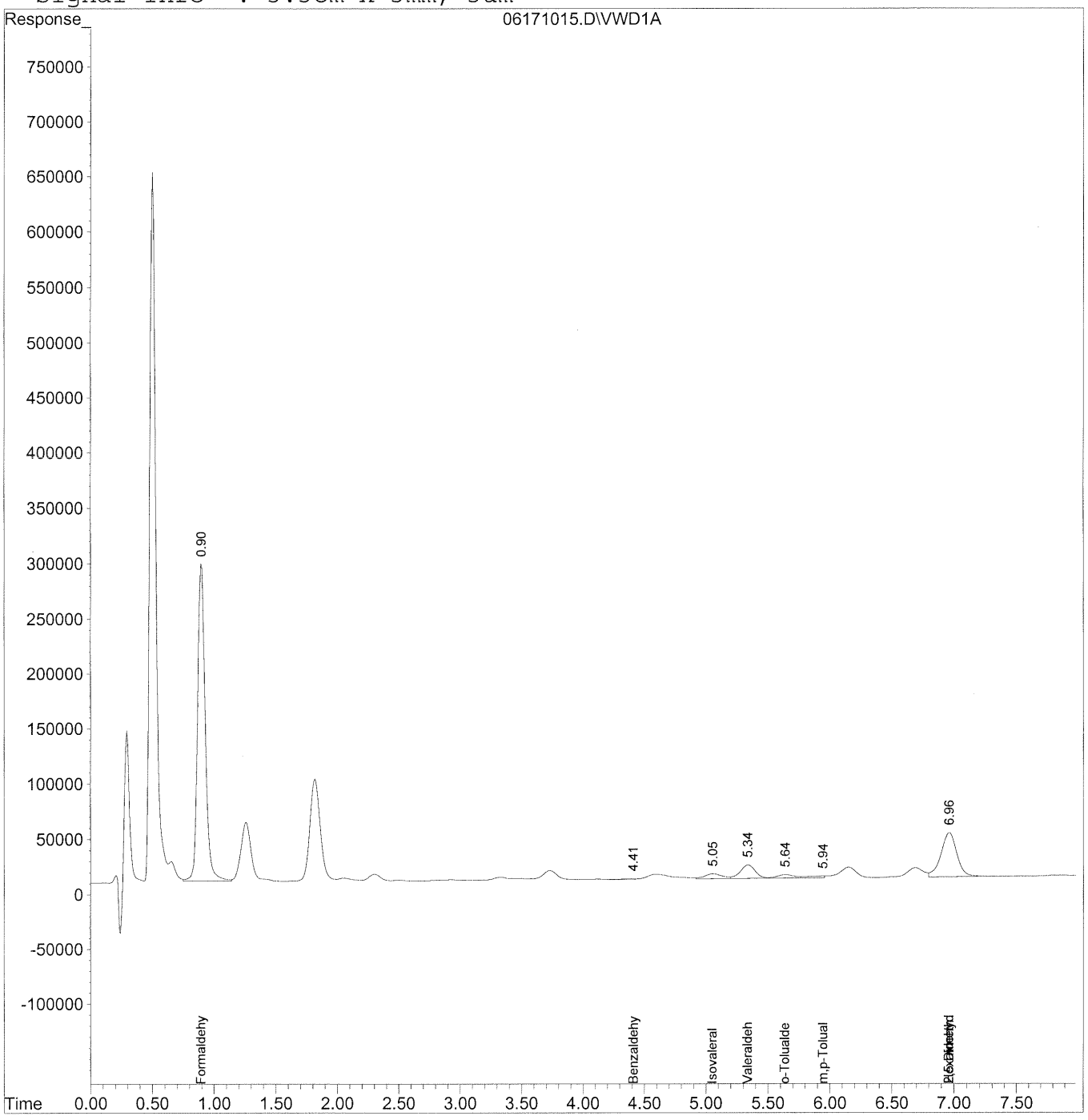
HC
6/17/10
BN
see dil
6/21/10

(+) = Expected Retention Time
06161011.D TO110510.M Thu Jun 17 10:28:09 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171015.D Vial: 111
Acq On : 17-Jun-2010, 12:00:38 Operator: HC/SM
Sample : P1001953-007 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:22 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171015.D Vial: 111
Acq On : 17-Jun-2010, 12:00:38 Operator: HC/SM
Sample : P1001953-007 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:22 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

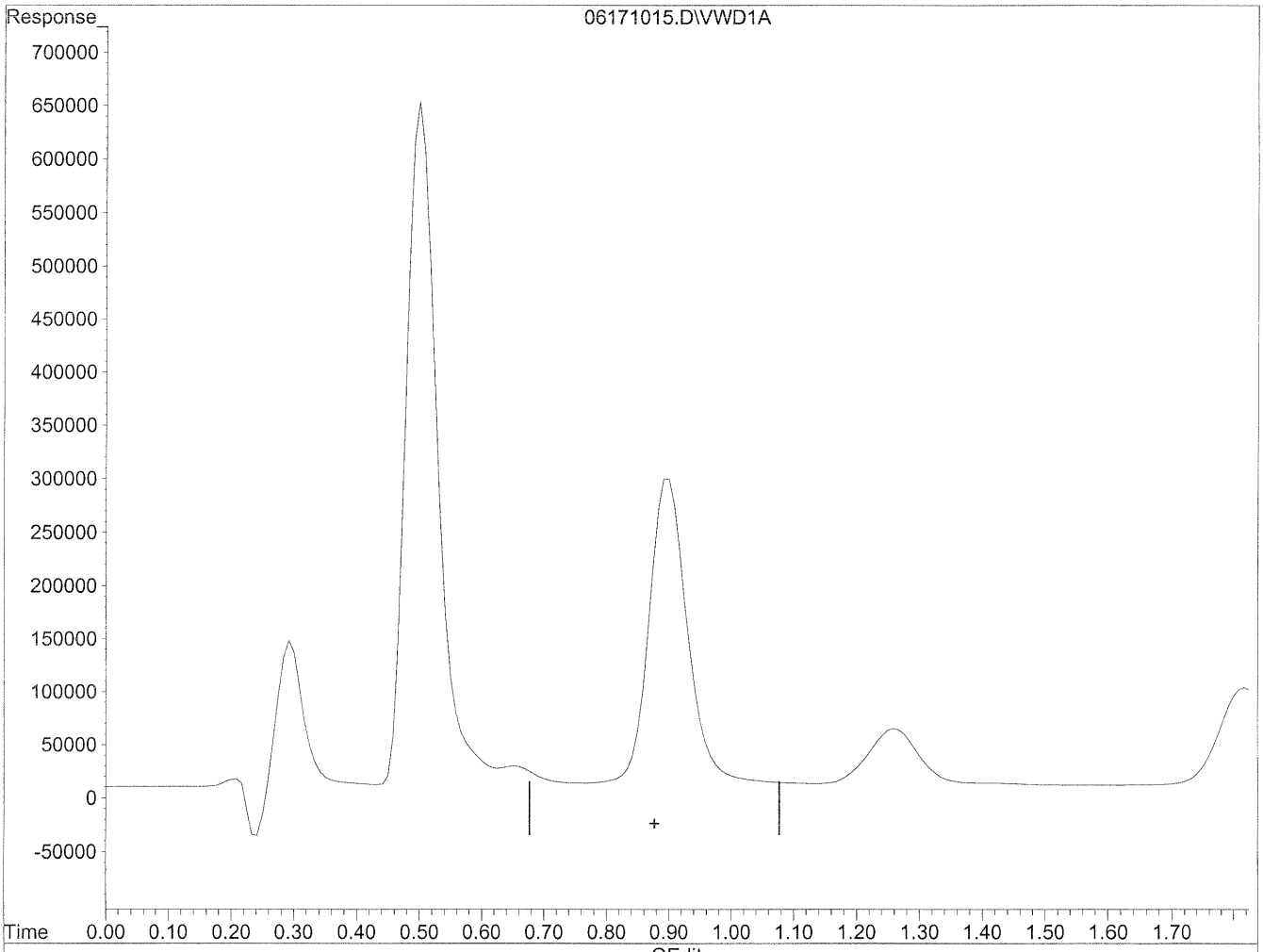
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	12499982	1339.350	ng/mlm
2)	Acetaldehyde	0.00	0	N.D.	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	4.41	39585	14.625	ng/ml
7)	Isovaleraldehyde	5.06	441682	124.498	ng/ml
8)	Valeraldehyde	5.34f	1012859	301.930	ng/ml
9)	o-Tolualdehyde	5.64	309360	151.980	ng/ml
10)	m,p-Tolualdehyde	5.94	176090	75.168	ng/ml
11)	Hexaldehyde	6.96f	3476382	1209.020	ng/ml
12)	2,5-Dimethylbenzaldehyde	6.96f	3476382	1806.814	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171015.D Vial: 111
Acq On : 17-Jun-2010, 12:00:38 Operator: HC/SM
Sample : P1001953-007 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 12:12 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.88min 0.000ng/ml

response 0

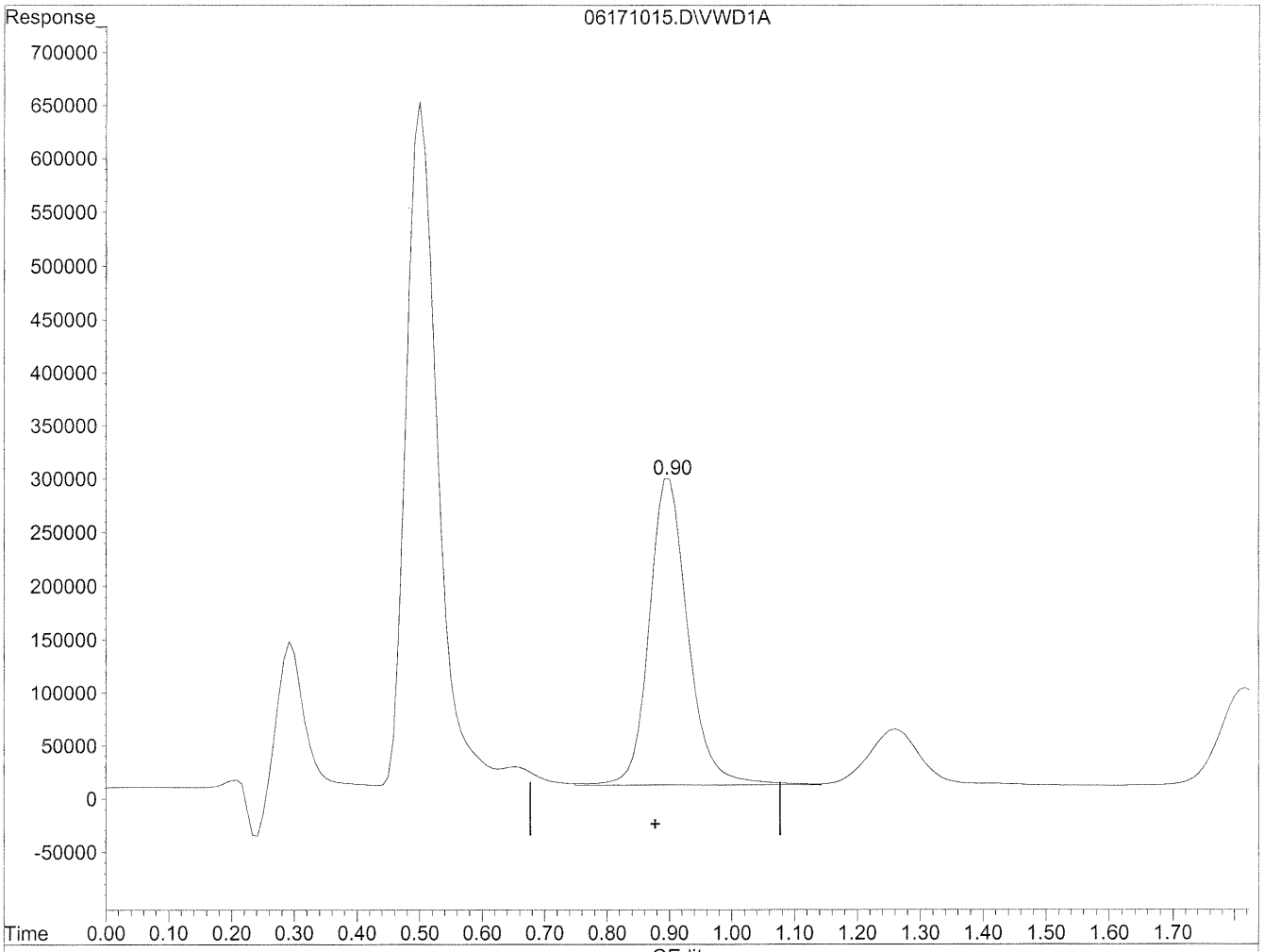
(+) = Expected Retention Time

06171015.D TO110510.M Fri Jun 18 08:22:39 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171015.D Vial: 111
Acq On : 17-Jun-2010, 12:00:38 Operator: HC/SM
Sample : P1001953-007 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 12:12 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.90min 1339.350ng/ml m

response 12499982

HC 6/18/10

6/21/10

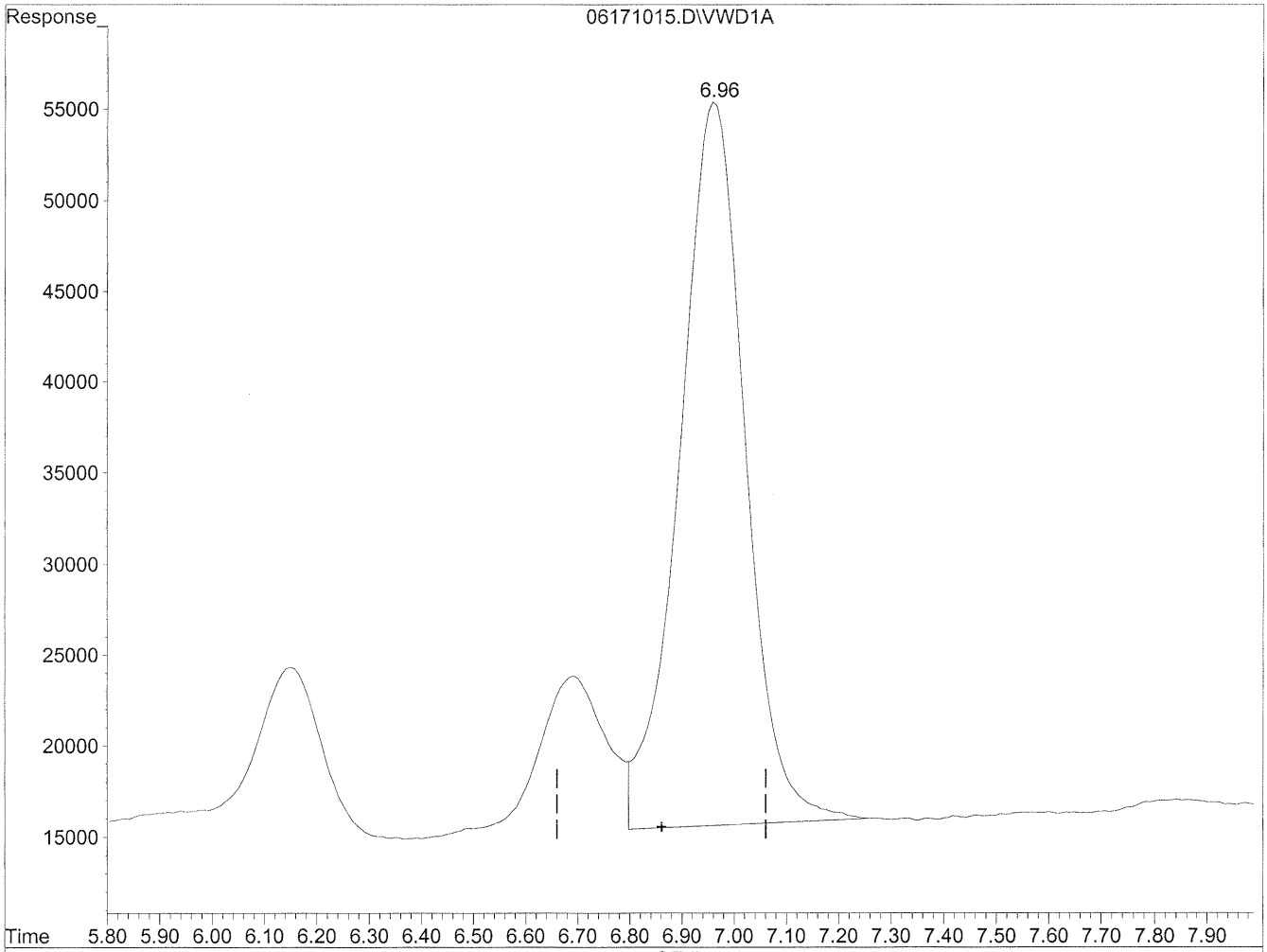
(+) = Expected Retention Time

06171015.D TO110510.M Fri Jun 18 08:22:52 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171015.D Vial: 111
Acq On : 17-Jun-2010, 12:00:38 Operator: HC/SM
Sample : P1001953-007 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 12:12 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.96min 1209.020ng/ml

response 3476382

(+) = Expected Retention Time

06171015.D TO110510.M Fri Jun 18 08:22:57 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111054**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-008

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 18760 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**3.0**	**1.6**	0.11	**1.3**	0.088	
75-07-0	**Acetaldehyde**	**1.2**	**0.78**	0.13	**0.43**	0.070	
123-38-6	**Propionaldehyde**	**0.27**	**0.37**	0.27	**0.15**	0.12	
123-72-8	**Butyraldehyde**	**0.37**	**1.8**	0.97	**0.61**	0.33	
100-52-7	Benzaldehyde	< 0.20	ND	0.12	ND	0.027	
590-86-3	**Isovaleraldehyde**	**0.31**	**0.27**	0.17	**0.076**	0.050	
110-62-3	**Valeraldehyde**	**0.23**	**0.44**	0.39	**0.13**	0.11	
66-25-1	**n-Hexaldehyde**	**0.33**	**0.97**	0.59	**0.24**	0.14	

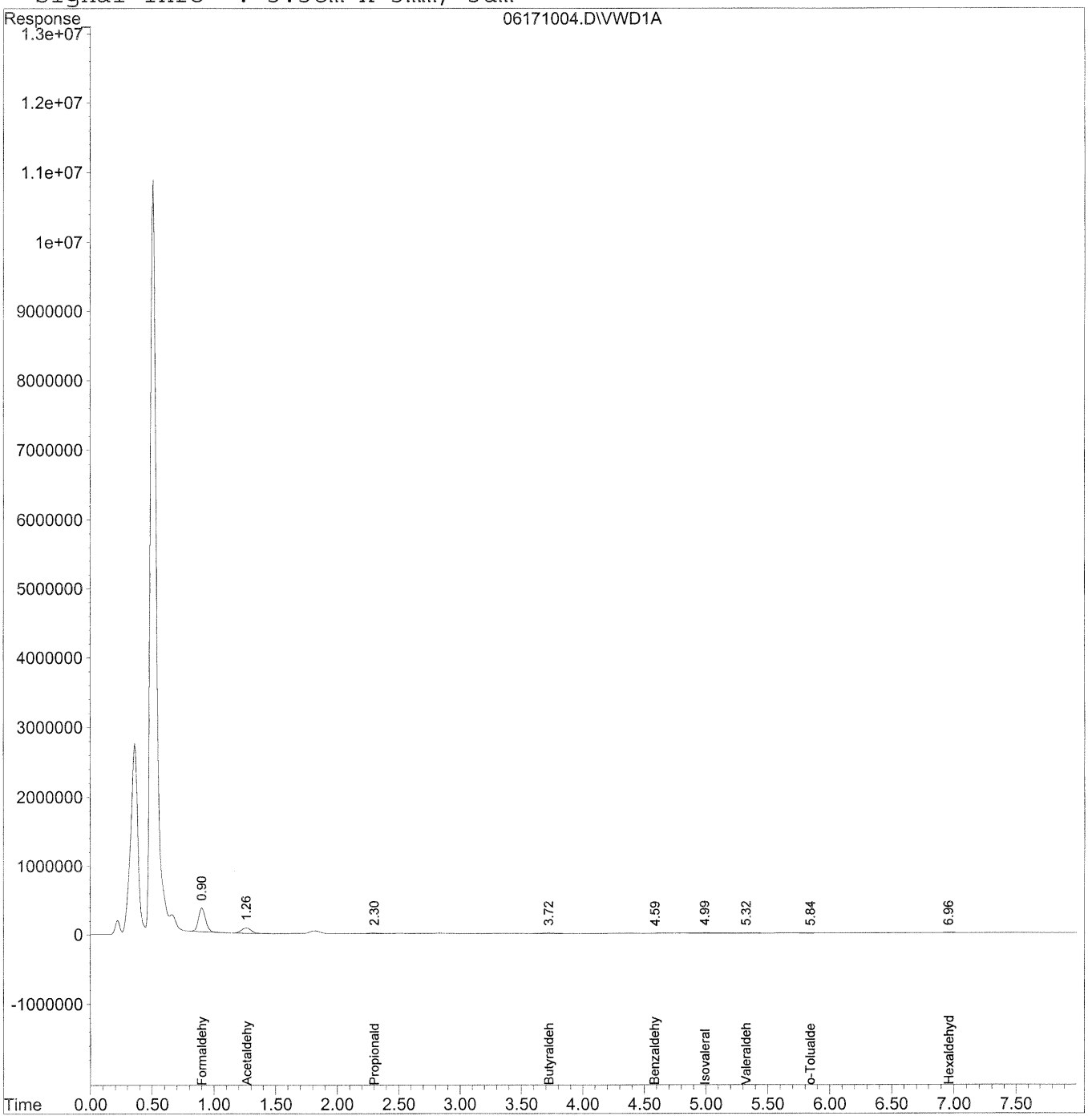
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Re Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171004.D Vial: 102
Acq On : 17-Jun-2010, 10:05:22 Operator: HC/SM
Sample : P1001953-008 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 15:56 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171004.D Vial: 102
Acq On : 17-Jun-2010, 10:05:22 Operator: HC/SM
Sample : P1001953-008 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 15:56 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

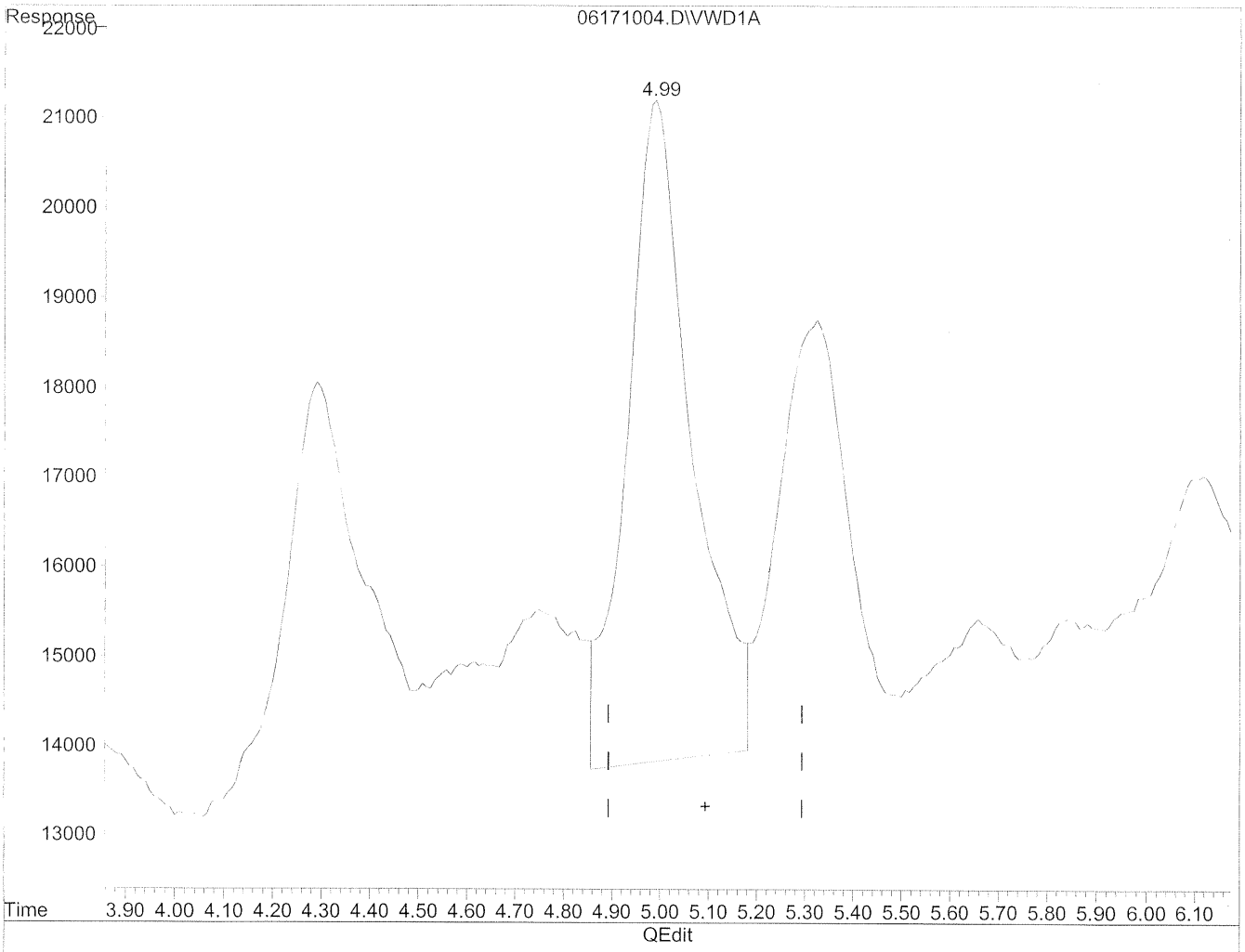
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	13949276	1494.639	ng/mlm
2)	Acetaldehyde	1.26	4156609	617.145	ng/mlm
3)	Propionaldehyde	2.30	651661	134.031	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.73	746199	185.193	ng/ml
6)	Benzaldehyde	4.59	59048	21.815	ng/ml
7)	Isovaleraldehyde	4.99f	546373	154.007	ng/mlm
8)	Valeraldehyde	5.32	377905	112.652	ng/mlm
9)	o-Tolualdehyde	5.85	62430	30.670	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/mld
11)	Hexaldehyde	6.96	472577	164.353	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171004.D Vial: 102
Acq On : 17-Jun-2010, 10:05:22 Operator: HC/SM
Sample : P1001953-008 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.99min 194.309ng/ml

response 689352

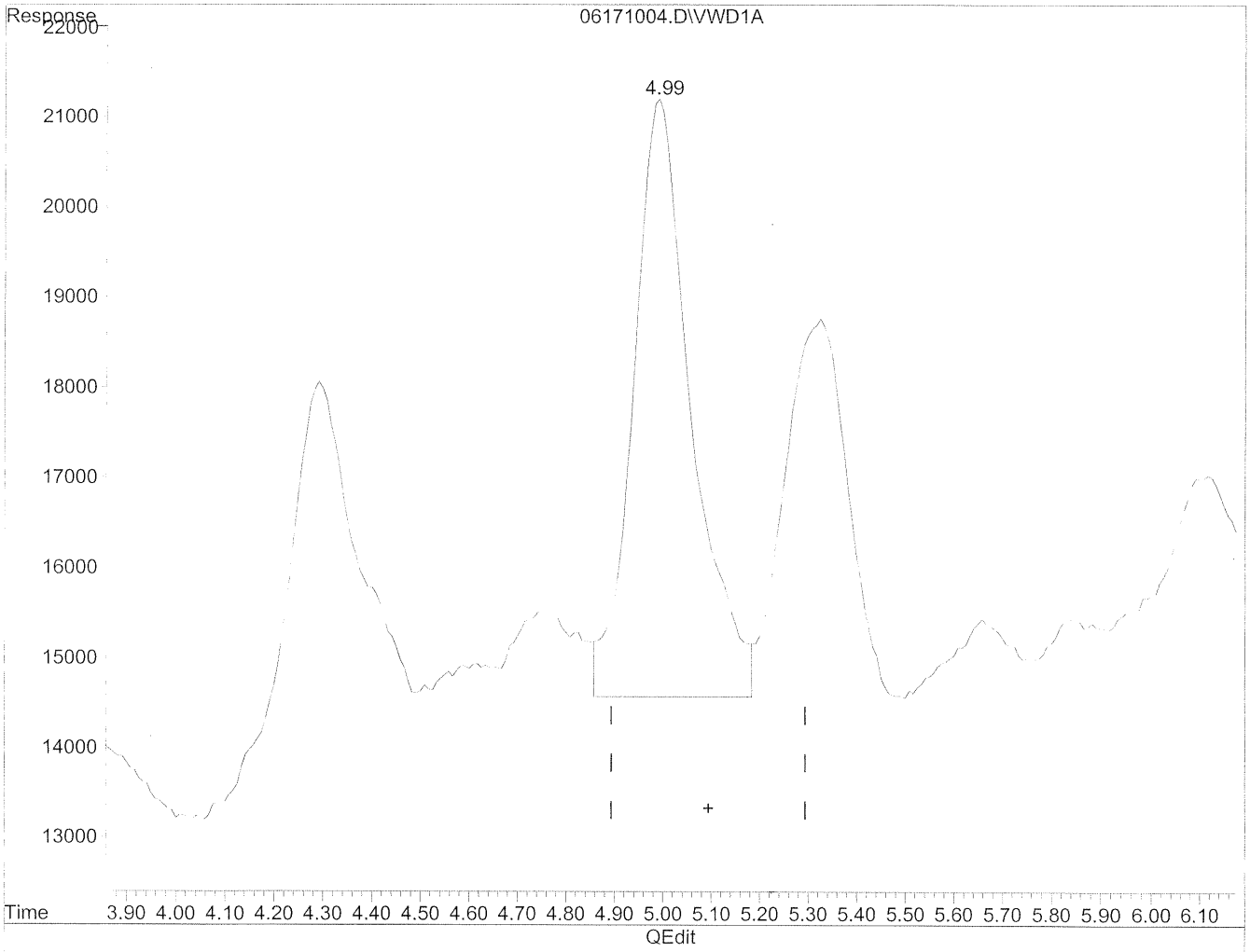
(+) = Expected Retention Time

06171004.D TO110510.M Thu Jun 17 15:55:30 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171004.D Vial: 102
Acq On : 17-Jun-2010, 10:05:22 Operator: HC/SM
Sample : P1001953-008 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.99min 154.007ng/ml m

response 546373

6/21/10

HC 6/17/10 BC

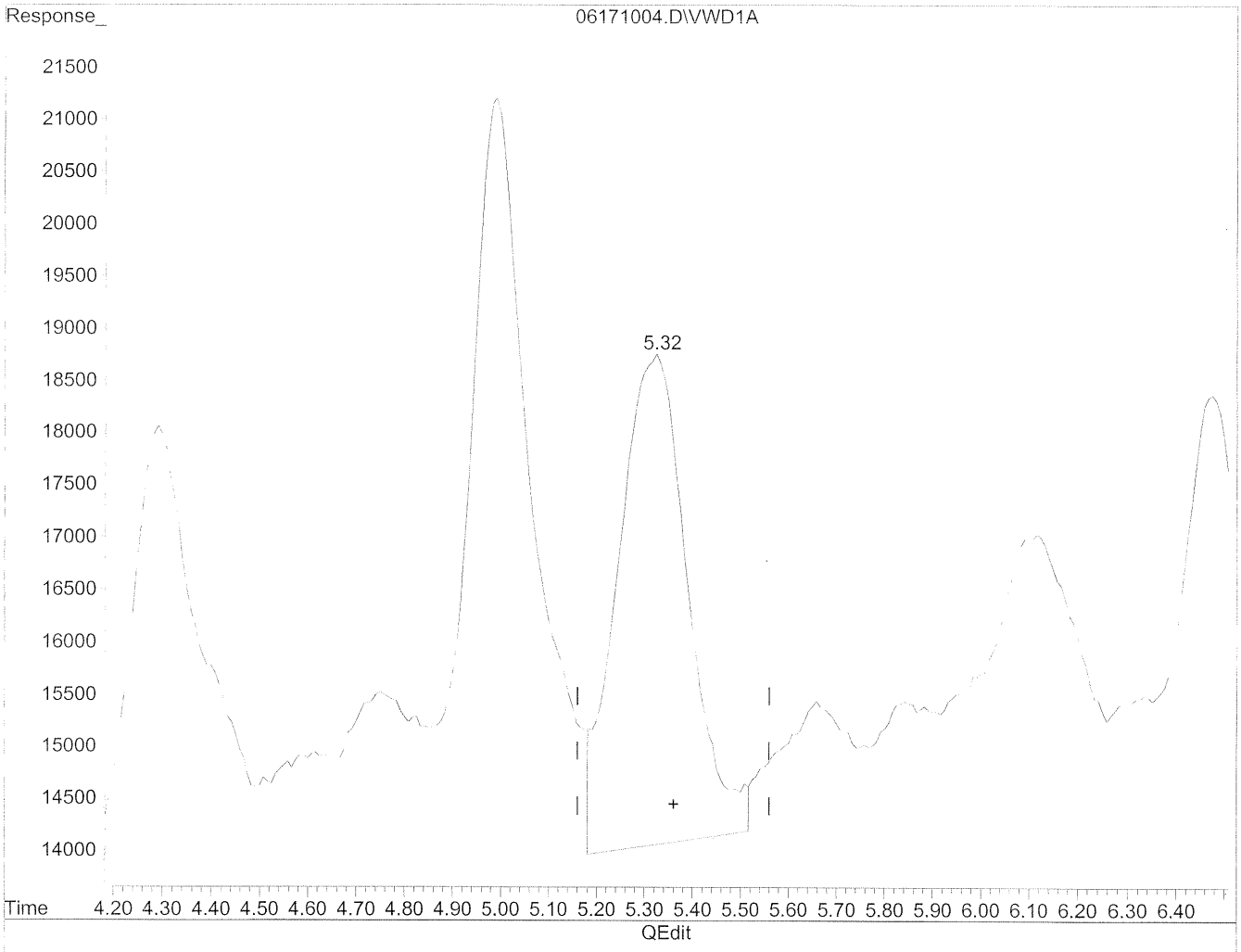
(+) = Expected Retention Time

06171004.D TO110510.M Thu Jun 17 15:55:55 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171004.D Vial: 102
Acq On : 17-Jun-2010, 10:05:22 Operator: HC/SM
Sample : P1001953-008 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.33min 142.332ng/ml

response 477469

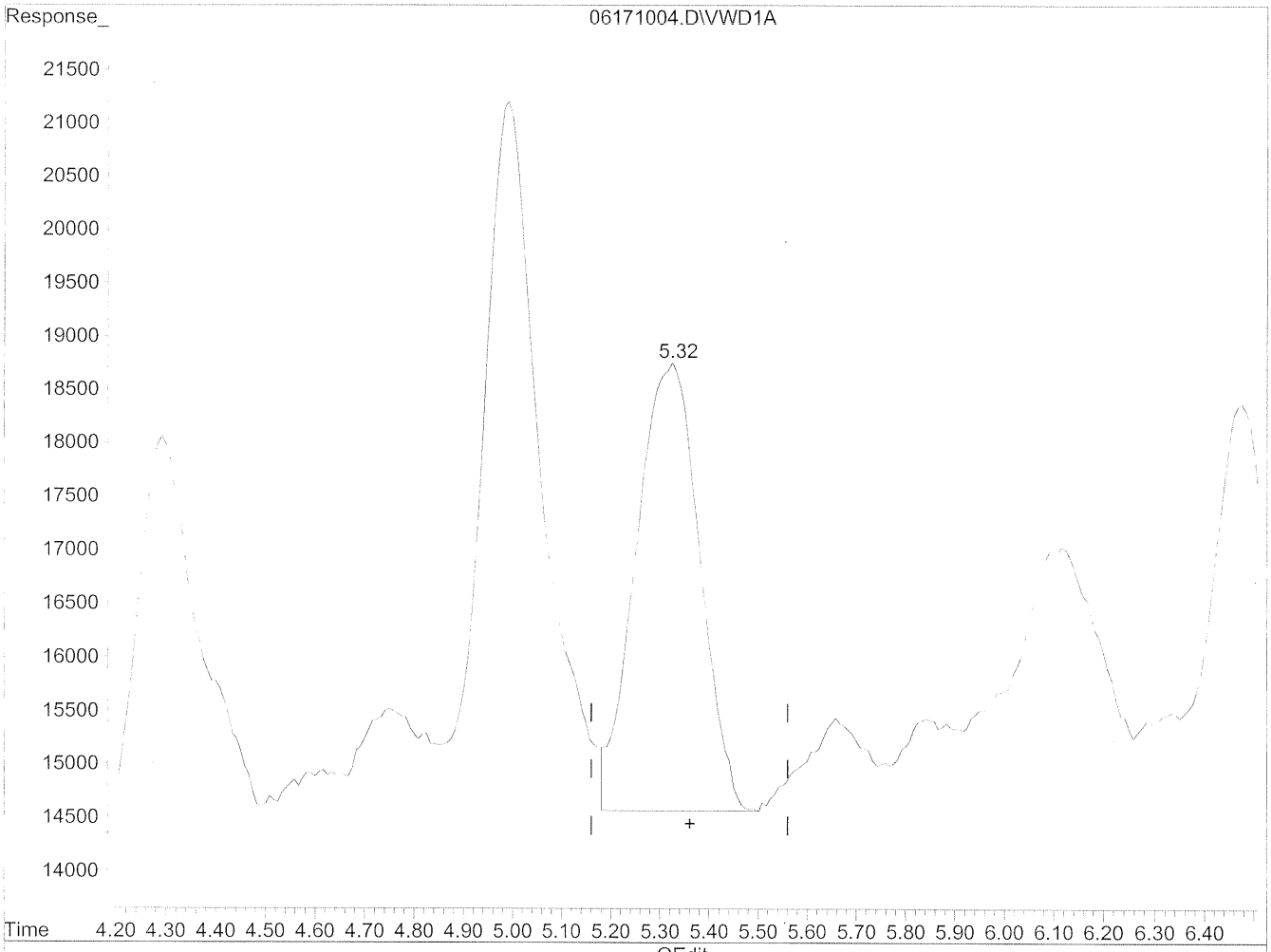
(+) = Expected Retention Time

06171004.D TO110510.M Thu Jun 17 15:55:59 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171004.D Vial: 102
Acq On : 17-Jun-2010, 10:05:22 Operator: HC/SM
Sample : P1001953-008 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



QEdit

(8) Valeraldehyde

5.32min 112.652ng/ml m

response 377905

6/21/10

6/17/10 BL

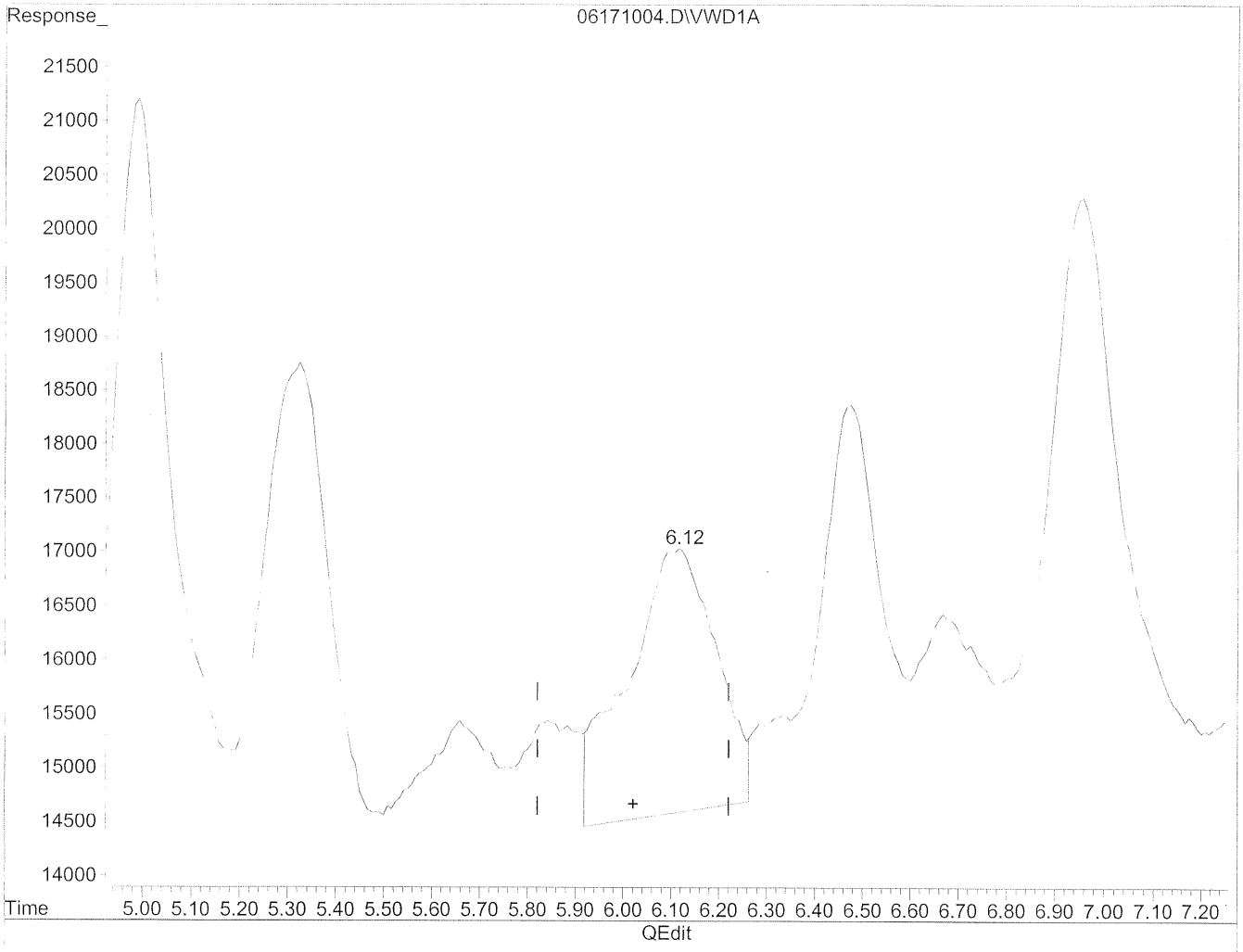
(+) = Expected Retention Time

06171004.D TO110510.M Thu Jun 17 15:56:14 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171004.D Vial: 102
Acq On : 17-Jun-2010, 10:05:22 Operator: HC/SM
Sample : P1001953-008 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

6.12min 134.646ng/ml

response 315422

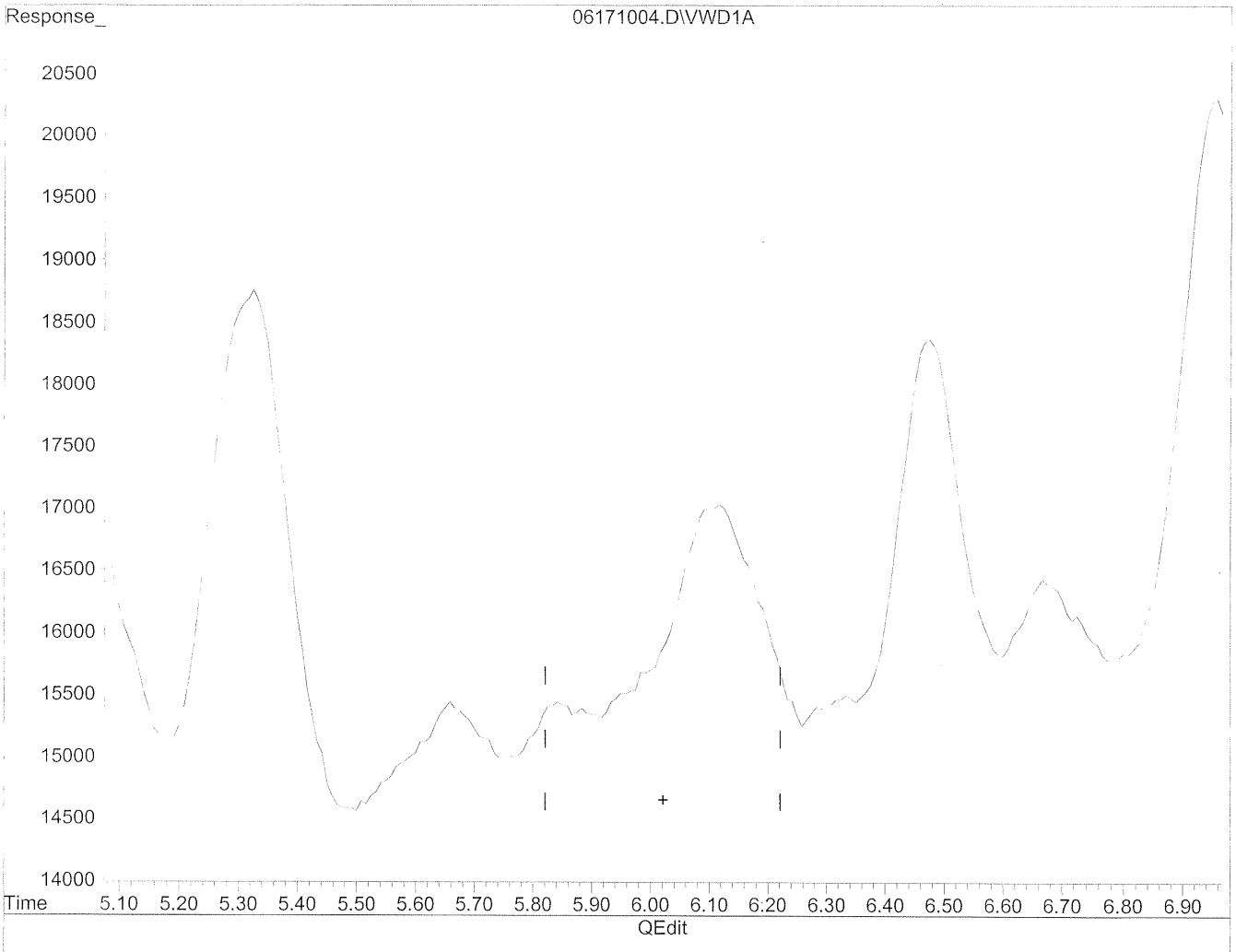
(+) = Expected Retention Time

06171004.D TO110510.M Thu Jun 17 15:56:20 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171004.D Vial: 102
Acq On : 17-Jun-2010, 10:05:22 Operator: HC/SM
Sample : P1001953-008 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

0.00min 0.000ng/ml d

response 0

m 6/21/10

MC 6/17/10 RT, MP

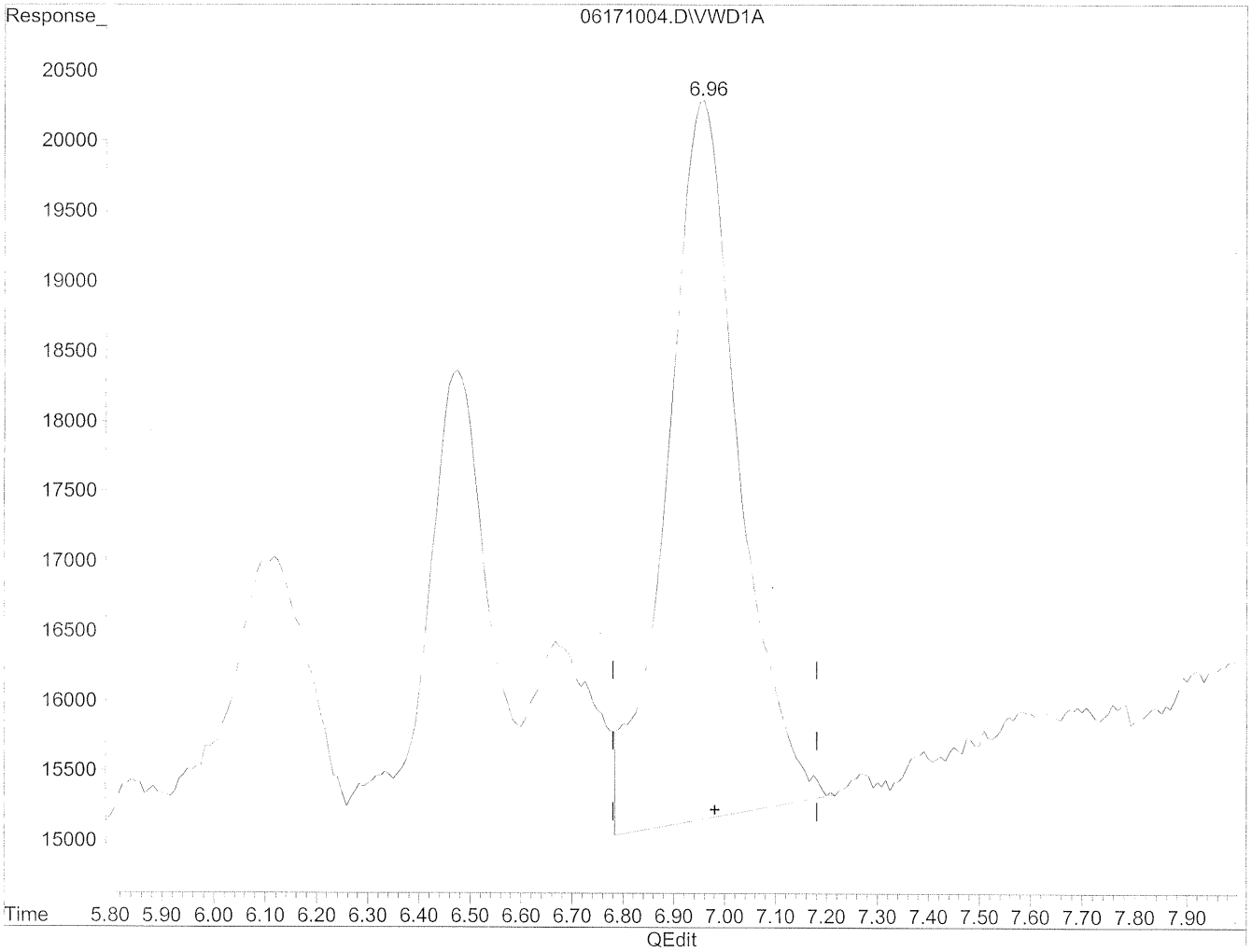
(+) = Expected Retention Time

06171004.D TO110510.M Thu Jun 17 15:56:23 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171004.D Vial: 102
Acq On : 17-Jun-2010, 10:05:22 Operator: HC/SM
Sample : P1001953-008 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.96min 176.282ng/ml

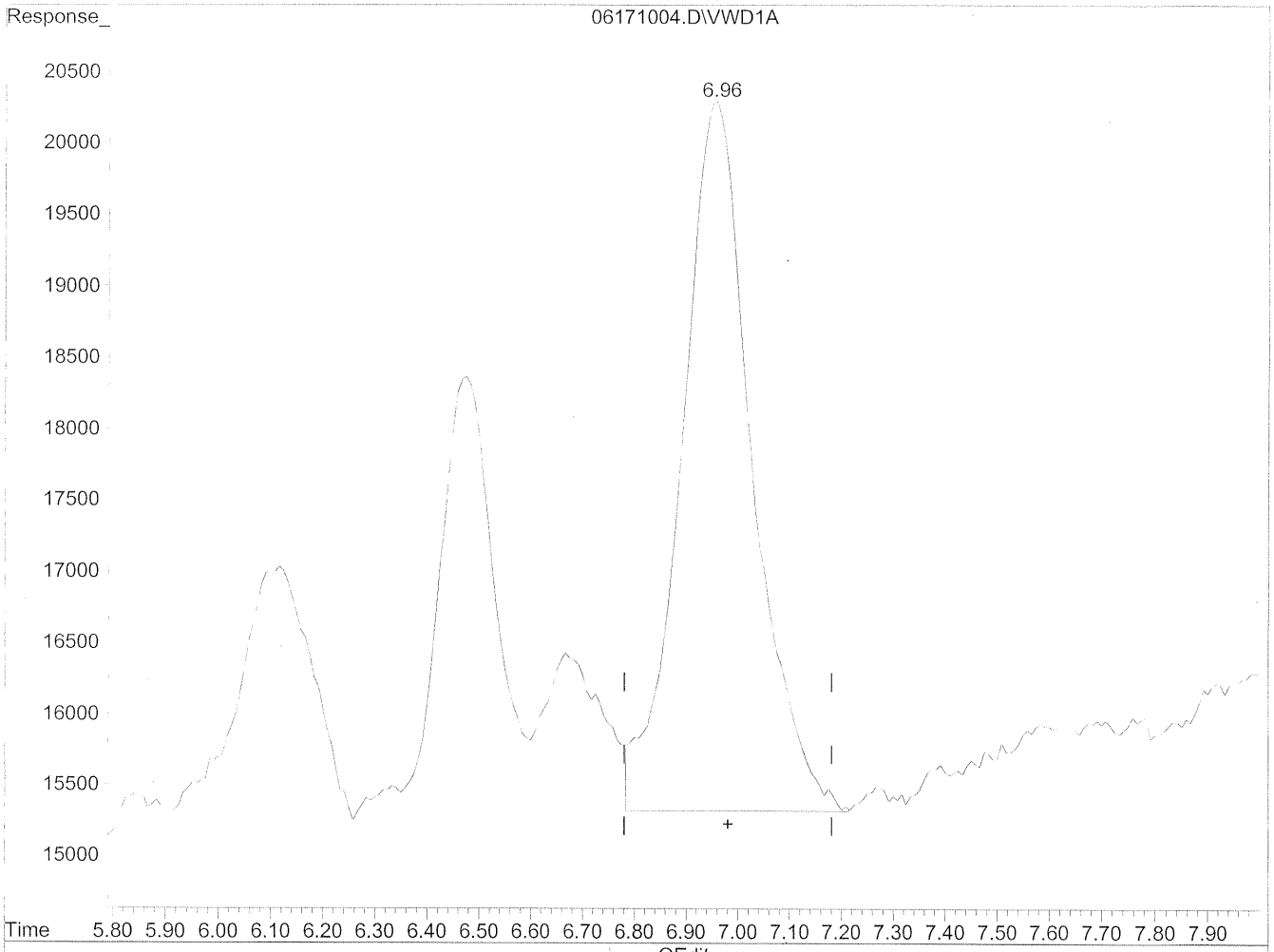
response 506876

(+) = Expected Retention Time
06171004.D TO110510.M Thu Jun 17 15:56:26 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171004.D Vial: 102
Acq On : 17-Jun-2010, 10:05:22 Operator: HC/SM
Sample : P1001953-008 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.96min 164.353ng/ml m

response 472577

6/21/12

HC 6/17/12 LC

(+) = Expected Retention Time

06171004.D TO110510.M Thu Jun 17 15:56:38 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111055**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-009

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/16/10
Desorption Volume: 2.0 ml
Sampling Time: NA Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**0.33**	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 0.20	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 0.20	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 0.20	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 0.20	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 0.20	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 0.20	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 0.20	NA	NA	NA	NA	

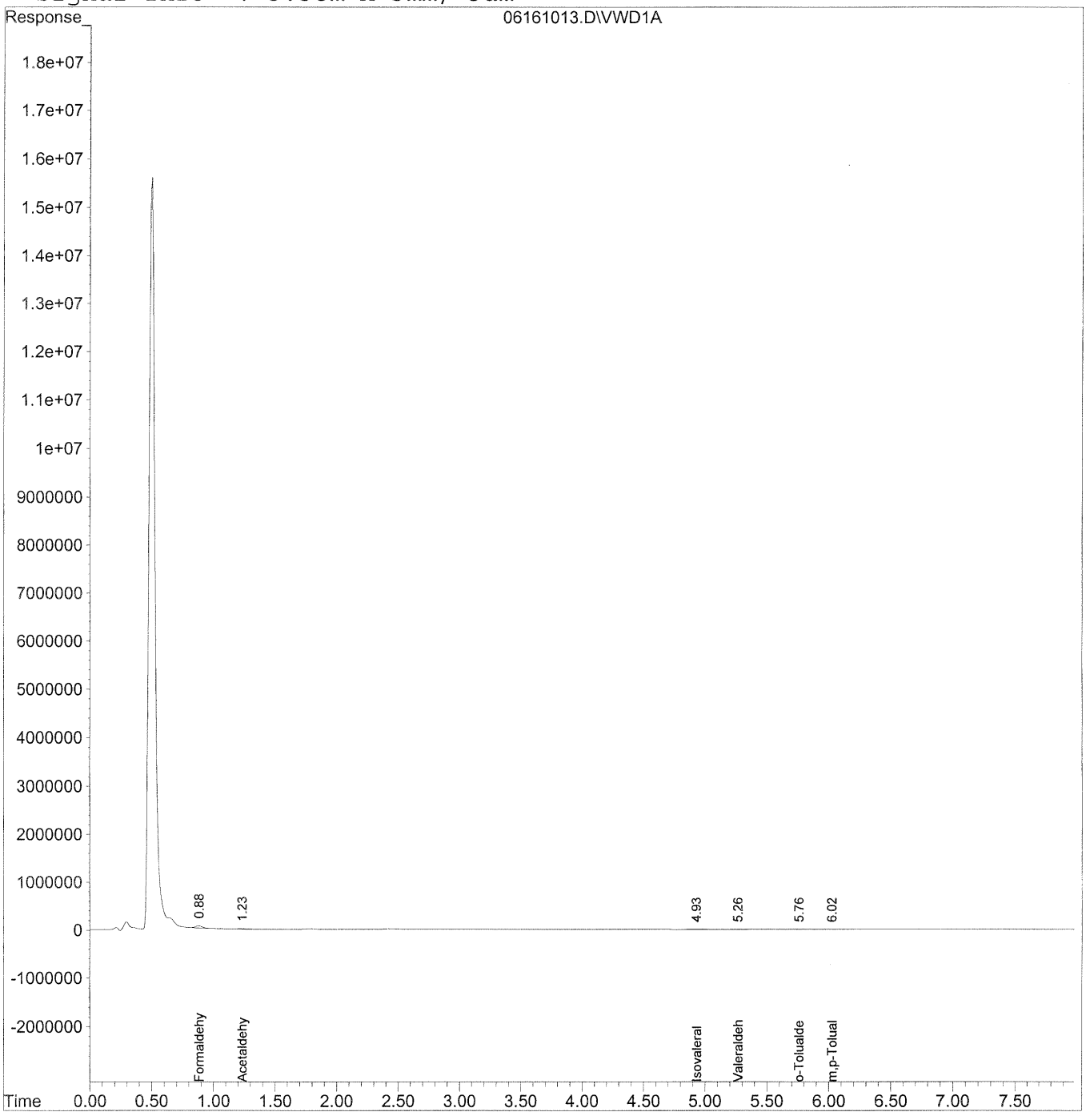
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Ro Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161013.D Vial: 109
Acq On : 16-Jun-2010, 11:31:13 Operator: HC/SM
Sample : P1001953-009 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:35 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161013.D Vial: 109
Acq On : 16-Jun-2010, 11:31:13 Operator: HC/SM
Sample : P1001953-009 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:35 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

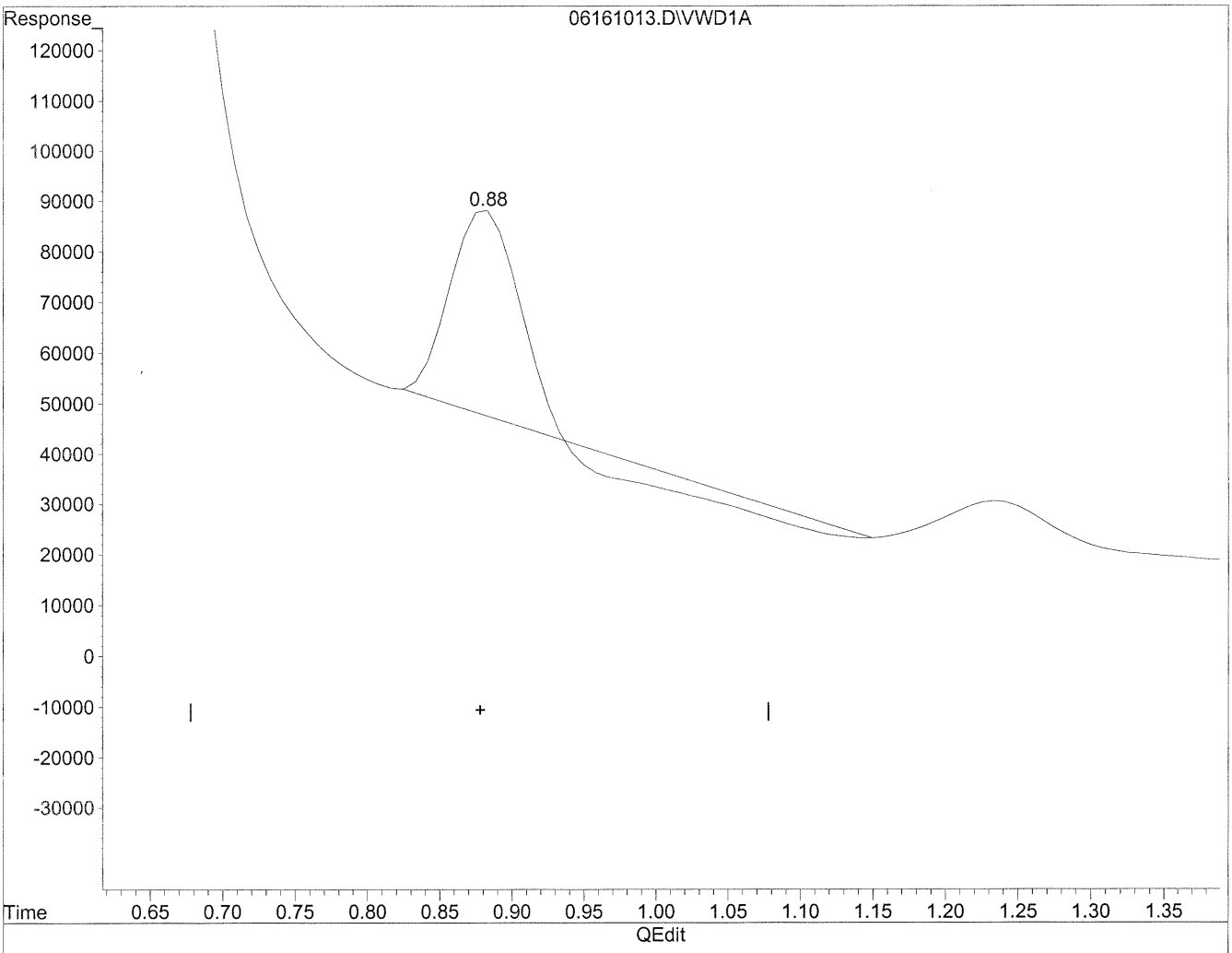
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	1539974	165.005	ng/mlm
2)	Acetaldehyde	1.23	431358	64.045	ng/mlm
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	4.93	53986	15.217	ng/ml
8)	Valeraldehyde	5.27	30043	8.956	ng/ml
9)	o-Tolualdehyde	5.76	18496	9.086	ng/ml
10)	m,p-Tolualdehyde	6.03f	48817	20.839	ng/ml
11)	Hexaldehyde	0.00	0	N.D.	ng/mld
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/mld

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161013.D Vial: 109
Acq On : 16-Jun-2010, 11:31:13 Operator: HC/SM
Sample : P1001953-009 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:58 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.88min 115.427ng/ml

response 1077263

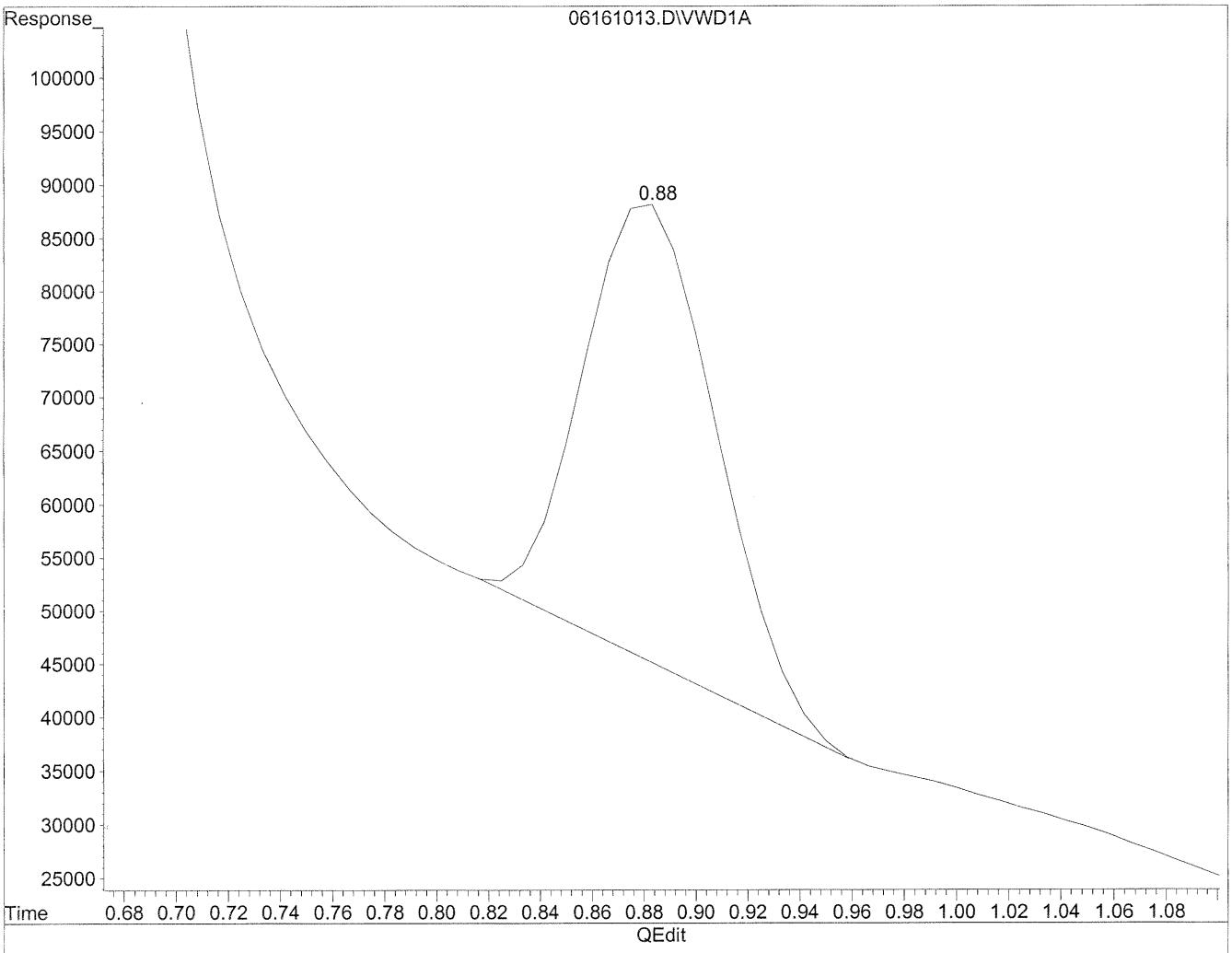
(+) = Expected Retention Time

06161013.D TO110510.M Thu Jun 17 10:33:50 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161013.D Vial: 109
Acq On : 16-Jun-2010, 11:31:13 Operator: HC/SM
Sample : P1001953-009 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:58 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.88min 165.005ng/ml m

response 1539974

HC 6/17/10

MW 6/21/10

IC

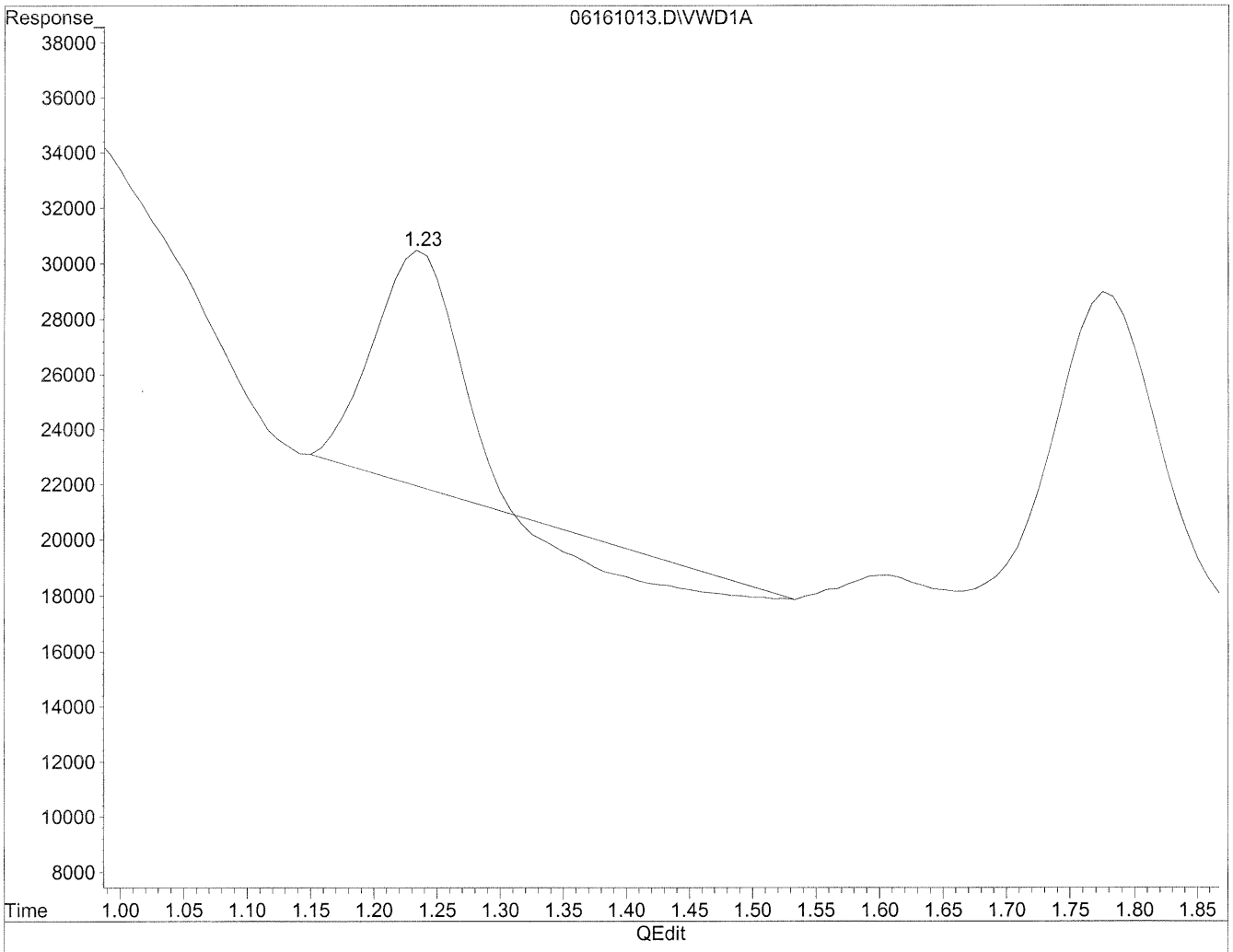
(+) = Expected Retention Time

06161013.D TO110510.M Thu Jun 17 10:34:19 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161013.D Vial: 109
Acq On : 16-Jun-2010, 11:31:13 Operator: HC/SM
Sample : P1001953-009 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:58 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.24min 47.938ng/ml

response 322876

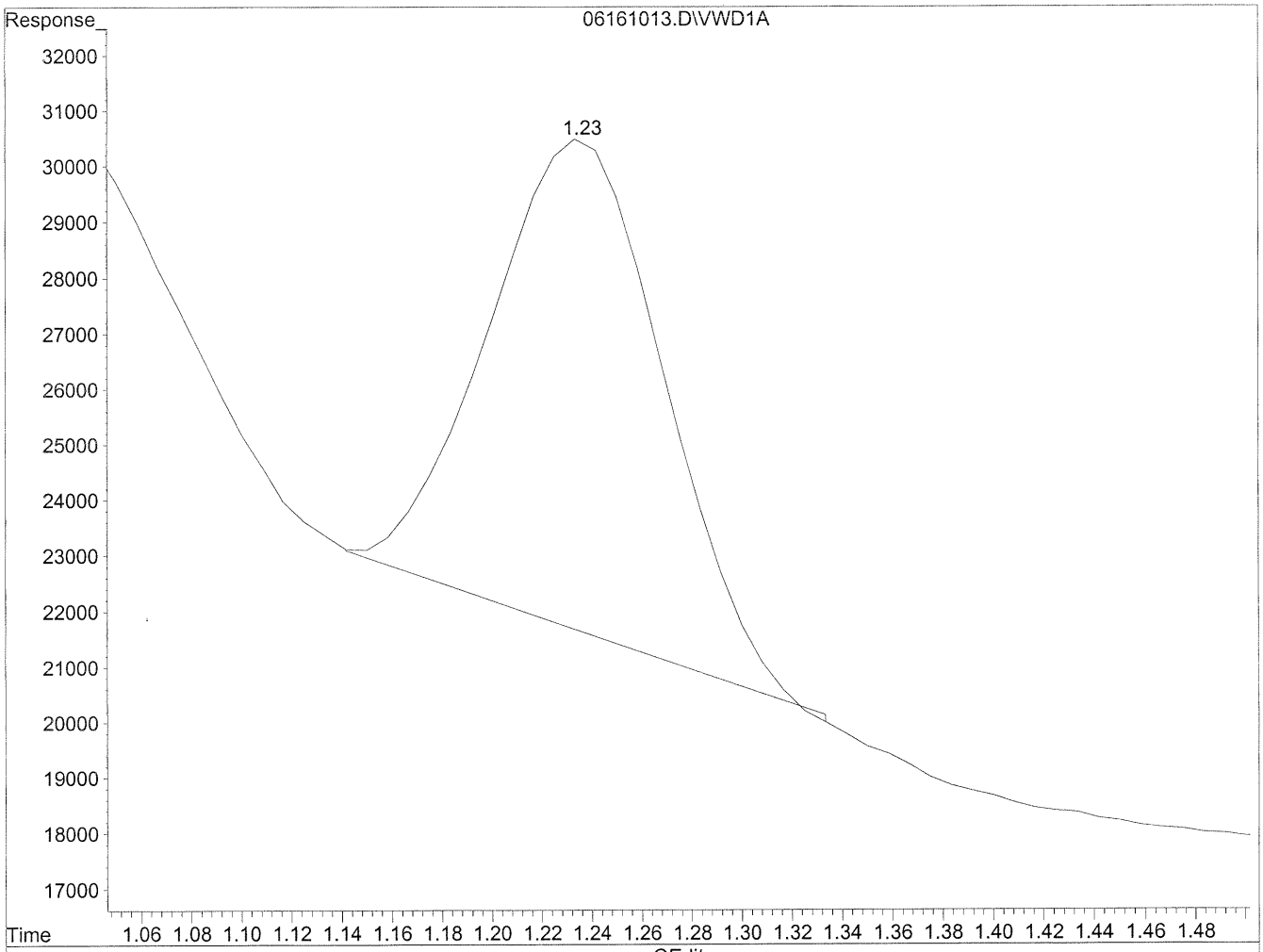
(+) = Expected Retention Time

06161013.D TO110510.M Thu Jun 17 10:34:30 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161013.D Vial: 109
Acq On : 16-Jun-2010, 11:31:13 Operator: HC/SM
Sample : P1001953-009 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:58 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.23min 64.045ng/ml m

response 431358

HC 6/17/10 LC

m 6/21/10

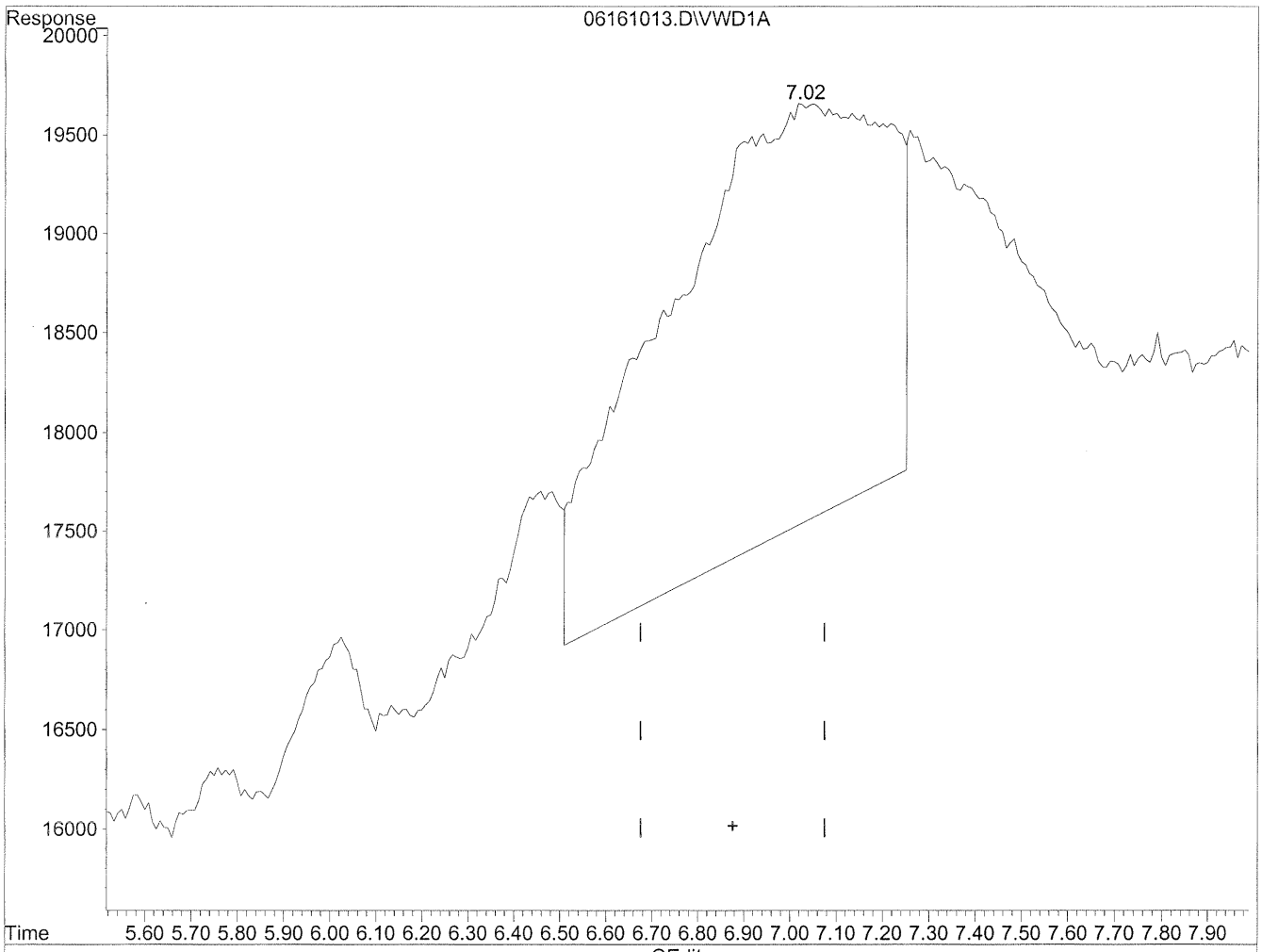
(+) = Expected Retention Time

06161013.D TO110510.M Thu Jun 17 10:34:54 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161013.D Vial: 109
Acq On : 16-Jun-2010, 11:31:13 Operator: HC/SM
Sample : P1001953-009 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:58 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

7.03min 251.500ng/ml

response 723156

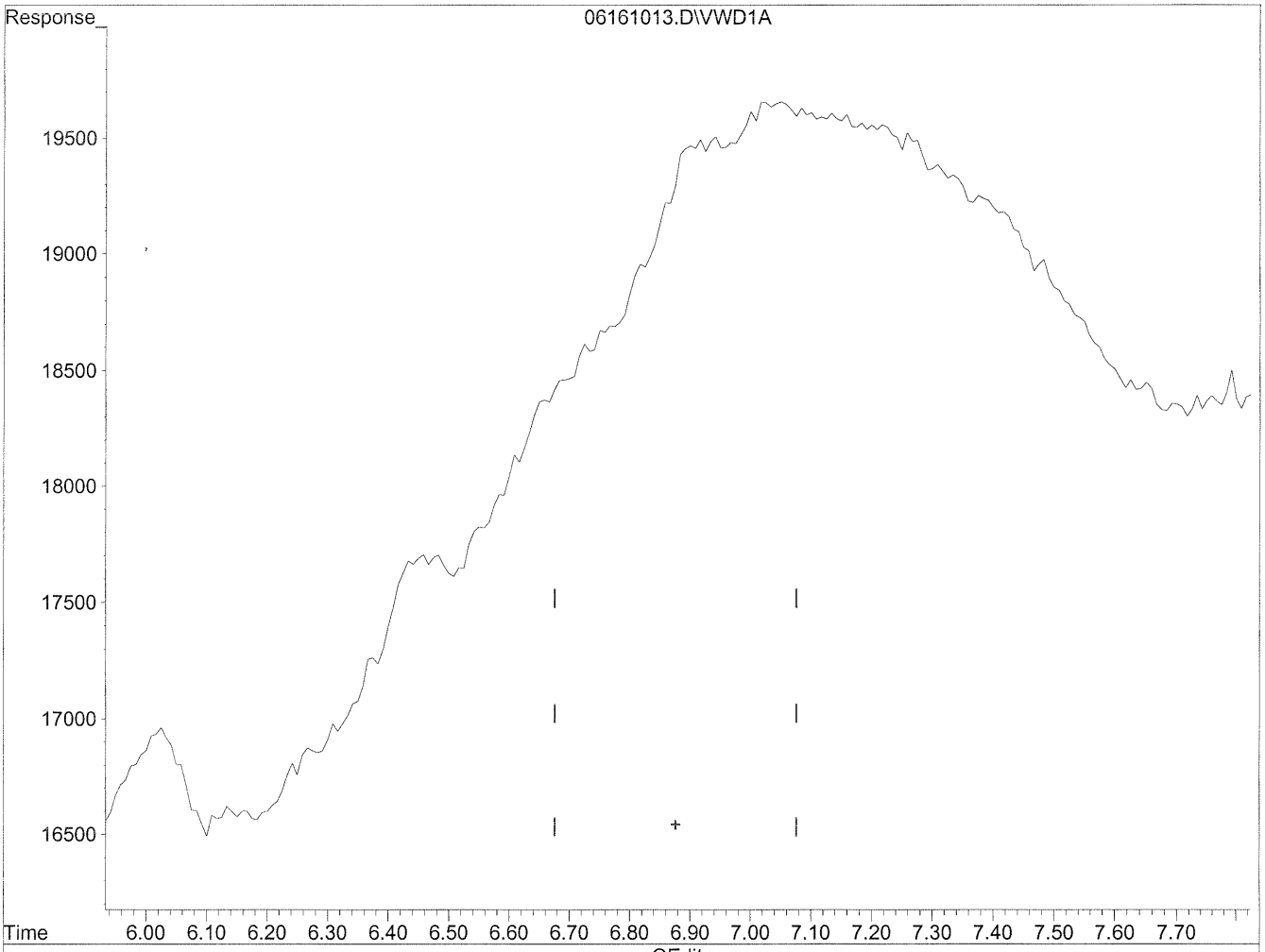
(+) = Expected Retention Time

06161013.D TO110510.M Thu Jun 17 10:35:05 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161013.D Vial: 109
Acq On : 16-Jun-2010, 11:31:13 Operator: HC/SM
Sample : P1001953-009 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:58 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

0.00min 0.000ng/ml d

response 0

6/21/10

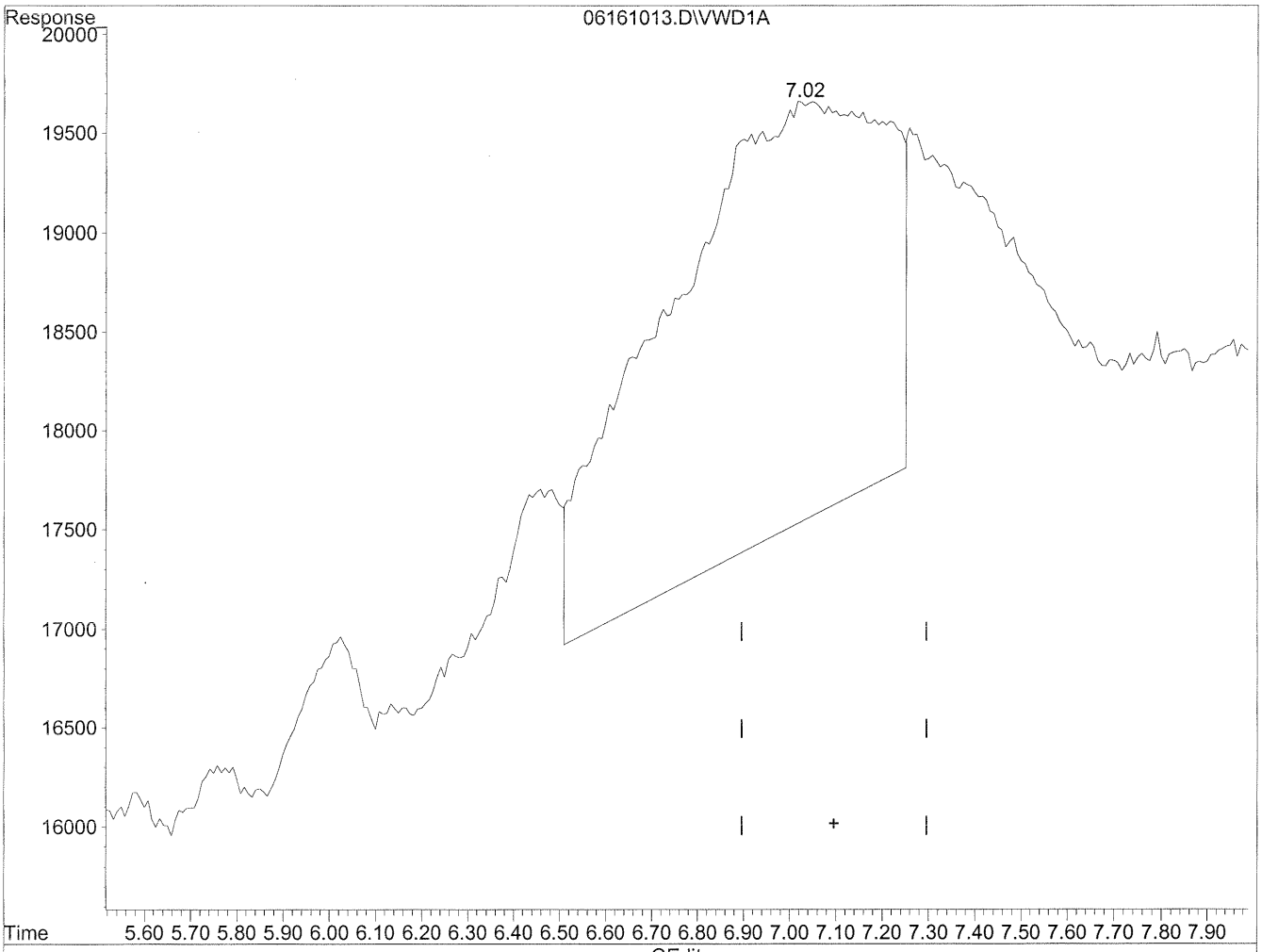
6/17/10
not peak

(+) = Expected Retention Time
06161013.D TO110510.M Thu Jun 17 10:35:08 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161013.D Vial: 109
Acq On : 16-Jun-2010, 11:31:13 Operator: HC/SM
Sample : P1001953-009 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:58 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.03min 375.853ng/ml

response 723156

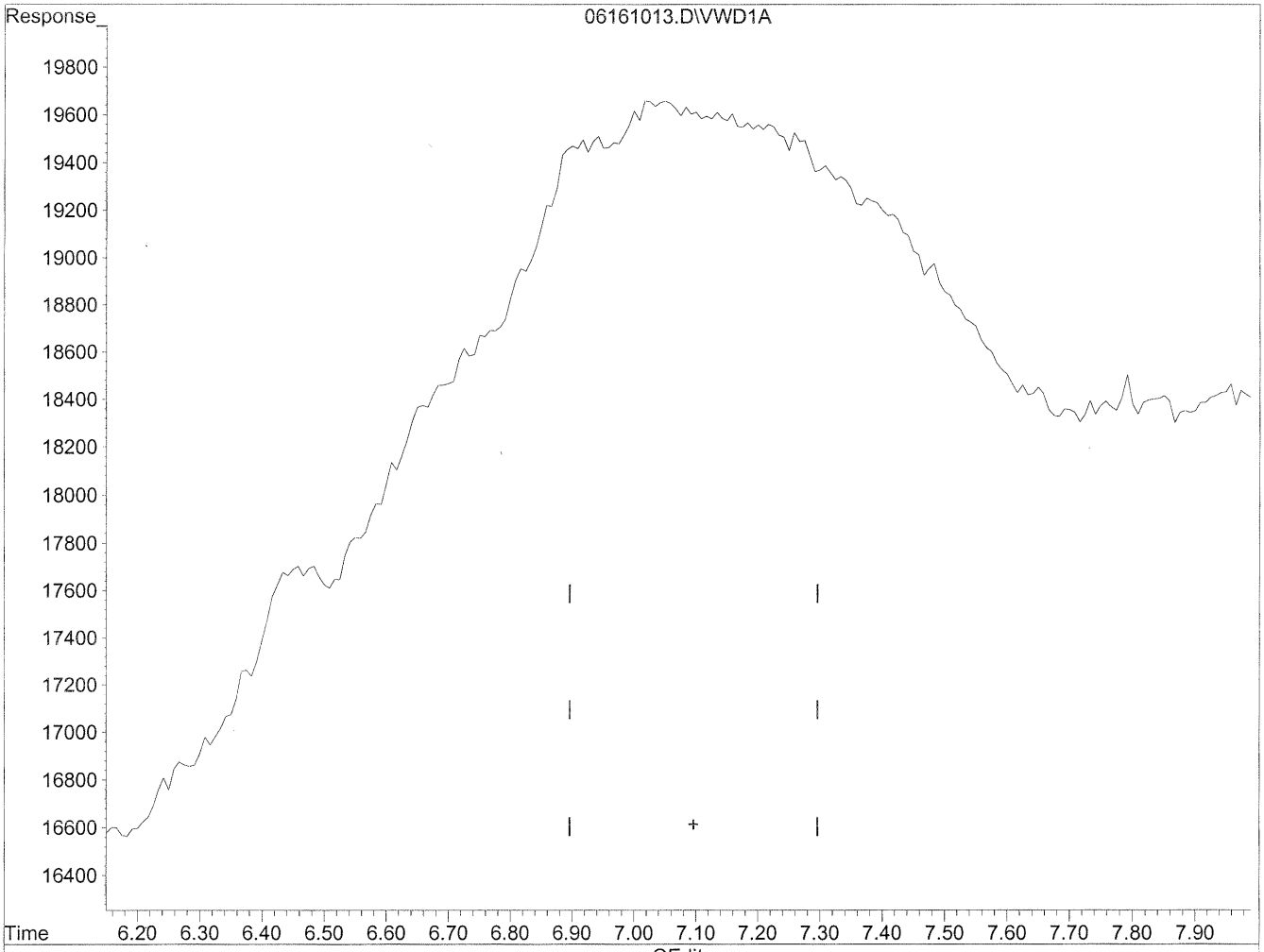
(+) = Expected Retention Time

06161013.D TO110510.M Thu Jun 17 10:35:12 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161013.D Vial: 109
Acq On : 16-Jun-2010, 11:31:13 Operator: HC/SM
Sample : P1001953-009 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 11:58 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

6/21/10

HC 6/17/10 not peak

(+) = Expected Retention Time

06161013.D TO110510.M Thu Jun 17 10:35:14 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111046**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-010

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 19225 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**49**	**26**	0.11	**21**	0.086	
75-07-0	**Acetaldehyde**	**2.2**	**1.4**	0.12	**0.77**	0.069	
123-38-6	**Propionaldehyde**	**0.88**	**1.2**	0.27	**0.50**	0.11	
123-72-8	**Butyraldehyde**	**1.6**	**7.5**	0.95	**2.5**	0.32	
100-52-7	**Benzaldehyde**	**2.8**	**1.6**	0.11	**0.36**	0.026	
590-86-3	**Isovaleraldehyde**	**0.91**	**0.78**	0.17	**0.22**	0.048	
110-62-3	**Valeraldehyde**	**2.6**	**4.9**	0.39	**1.4**	0.11	
66-25-1	**n-Hexaldehyde**	**11**	**33**	0.58	**8.0**	0.14	

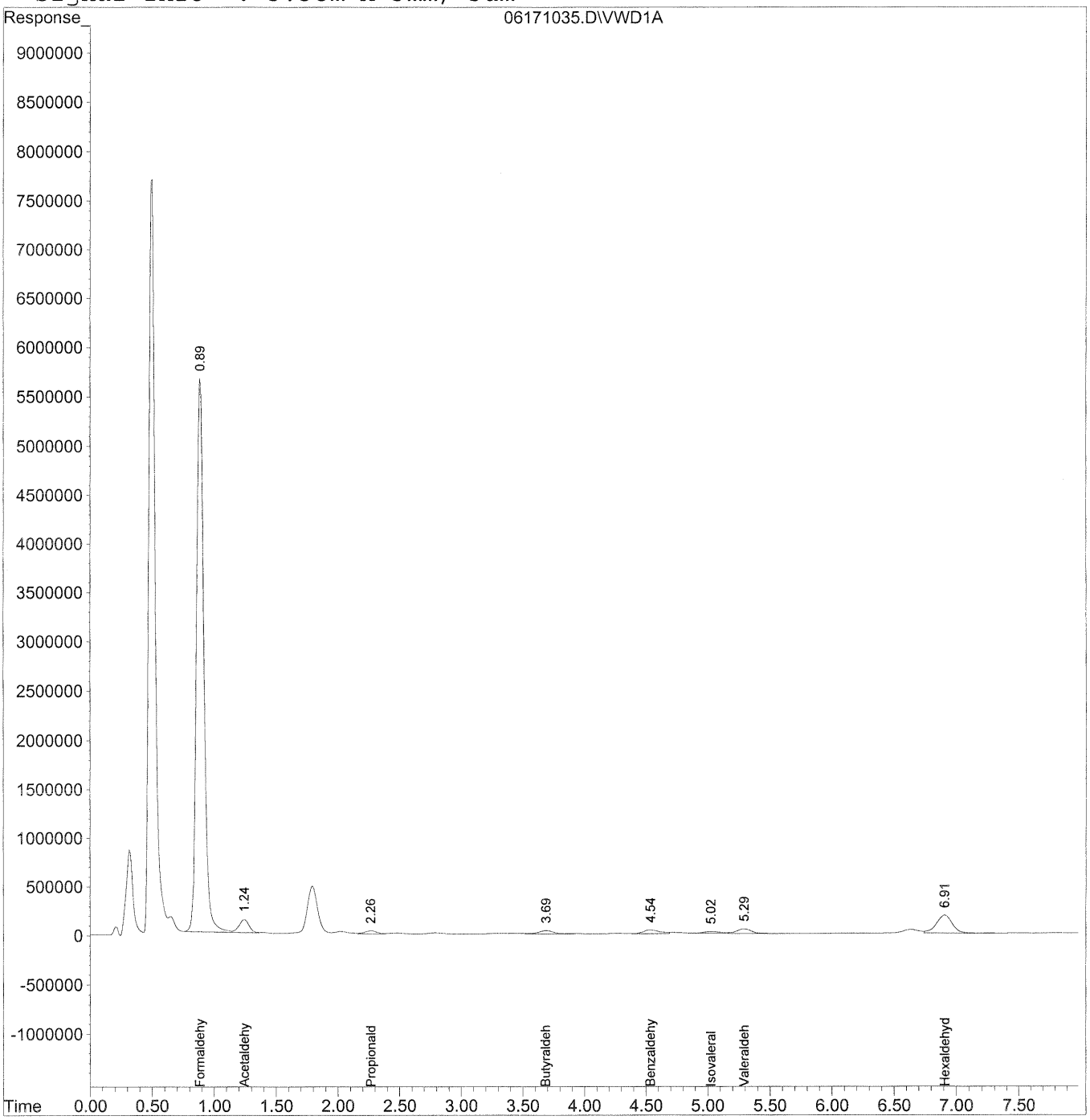
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Rv Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171035.D Vial: 125
Acq On : 17-Jun-2010, 15:28:19 Operator: HC/SM
Sample : P1001953-010 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:41 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171035.D Vial: 125
Acq On : 17-Jun-2010, 15:28:19 Operator: HC/SM
Sample : P1001953-010 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:41 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

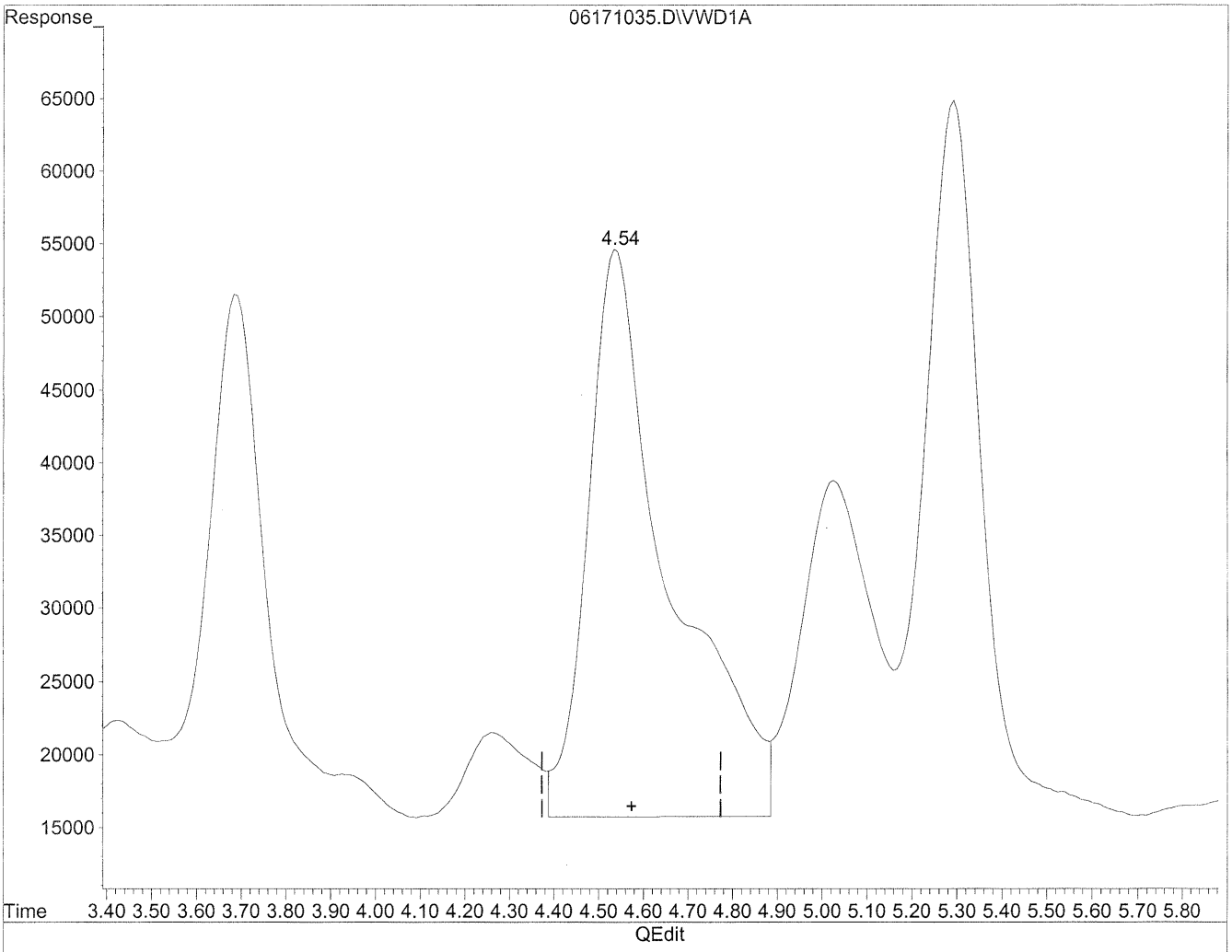
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	234748411	25152.852	ng/ml
2)	Acetaldehyde	1.25	7568821	1123.766	ng/ml
3)	Propionaldehyde	2.27	2149804	442.162	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.69	3194386	792.789	ng/ml
6)	Benzaldehyde	4.54	3775494	1394.858	ng/mlm
7)	Isovaleraldehyde	5.02	1614193	454.996	ng/mlm
8)	Valeraldehyde	5.29	4297480	1281.065	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.91	16222819	5641.987	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171035.D Vial: 125
Acq On : 17-Jun-2010, 15:28:19 Operator: HC/SM
Sample : P1001953-010 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.54min 1807.419ng/ml

response 4892182

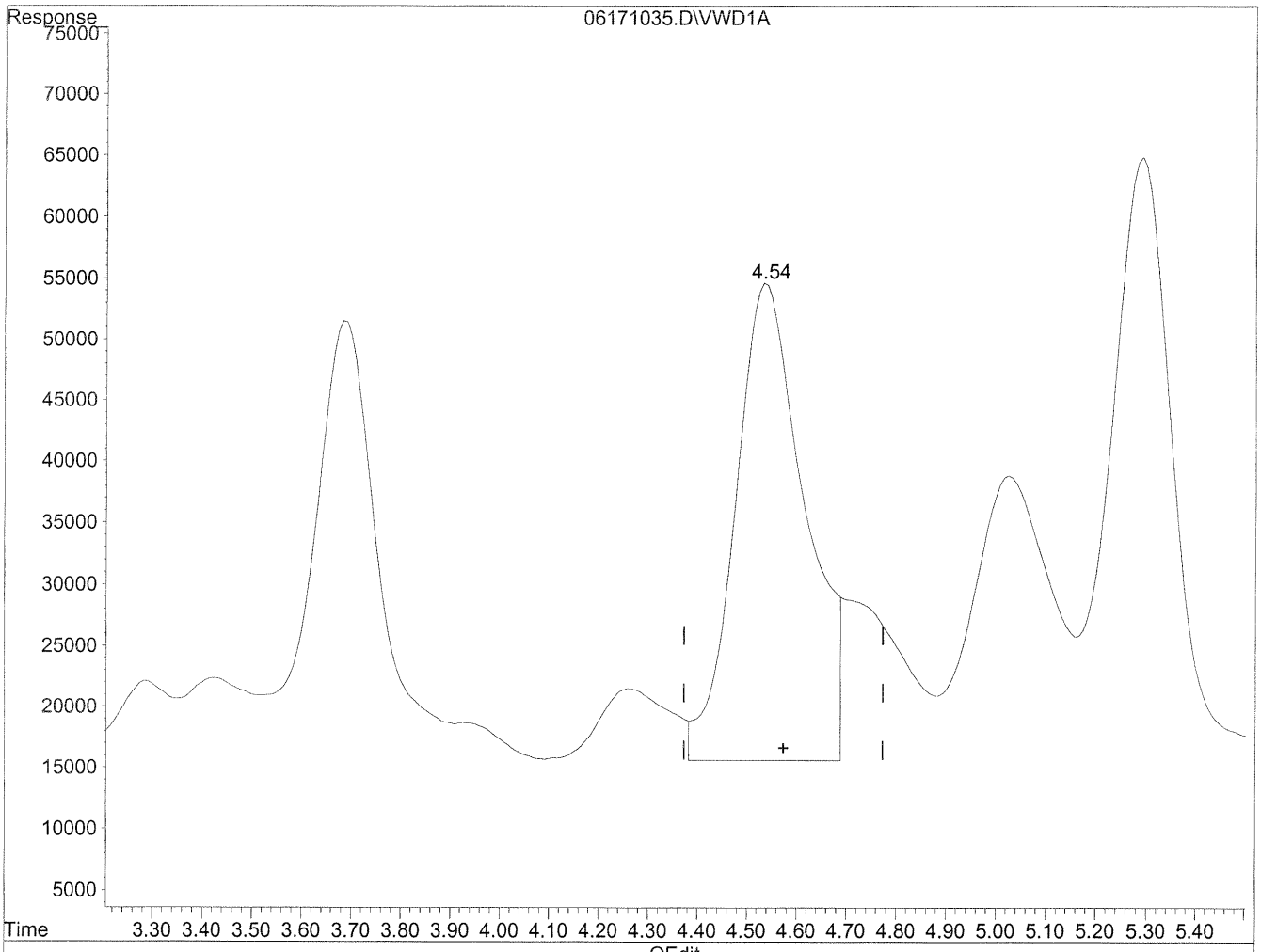
(+) = Expected Retention Time

06171035.D TO110510.M Fri Jun 18 08:40:12 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171035.D Vial: 125
Acq On : 17-Jun-2010, 15:28:19 Operator: HC/SM
Sample : P1001953-010 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.54min 1394.858ng/ml m

response 3775494

HC 6/18/10 SM 6/21/10

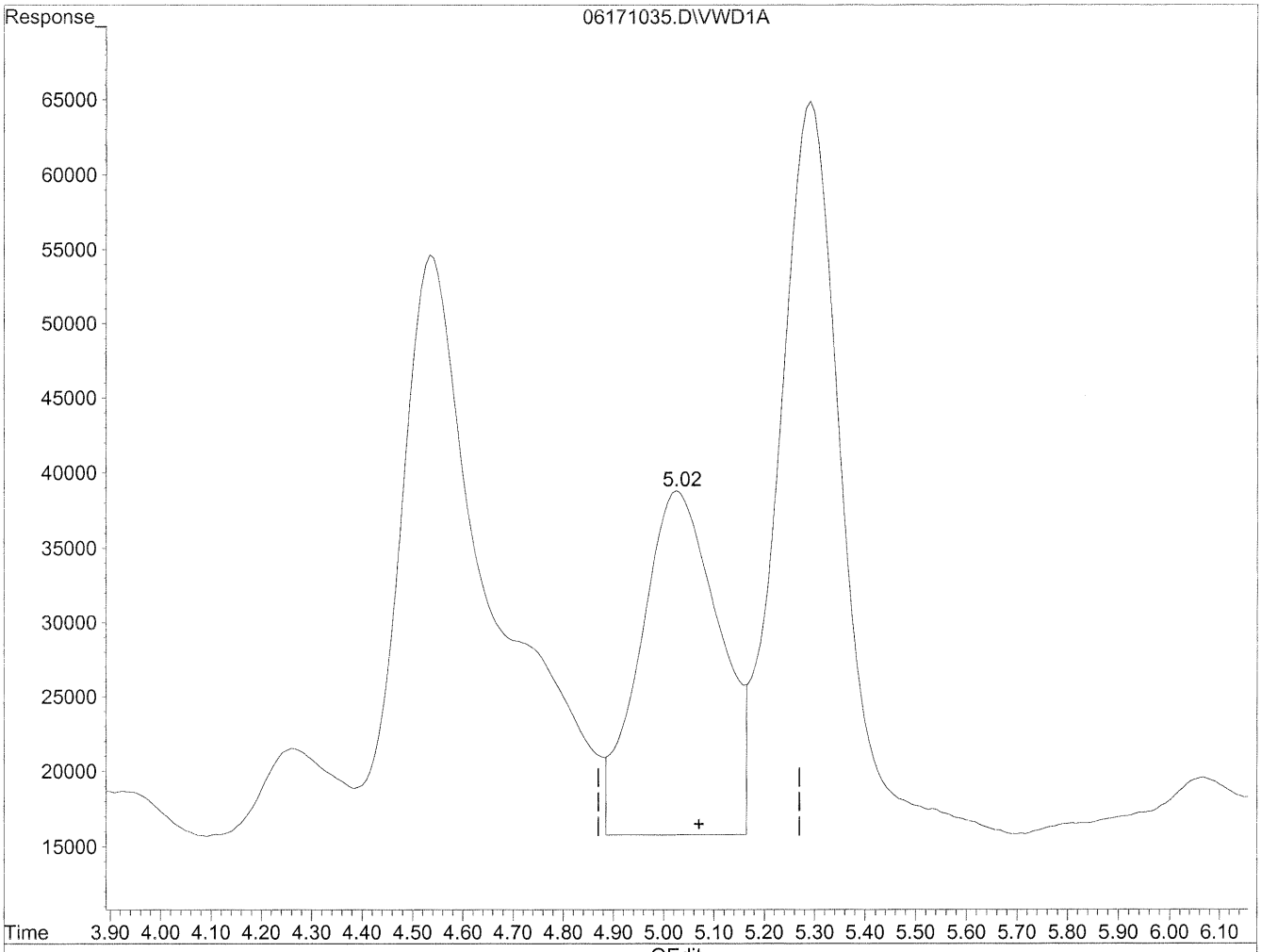
(+) = Expected Retention Time

06171035.D TO110510.M Fri Jun 18 08:40:54 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171035.D Vial: 125
Acq On : 17-Jun-2010, 15:28:19 Operator: HC/SM
Sample : P1001953-010 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.03min 700.842ng/ml

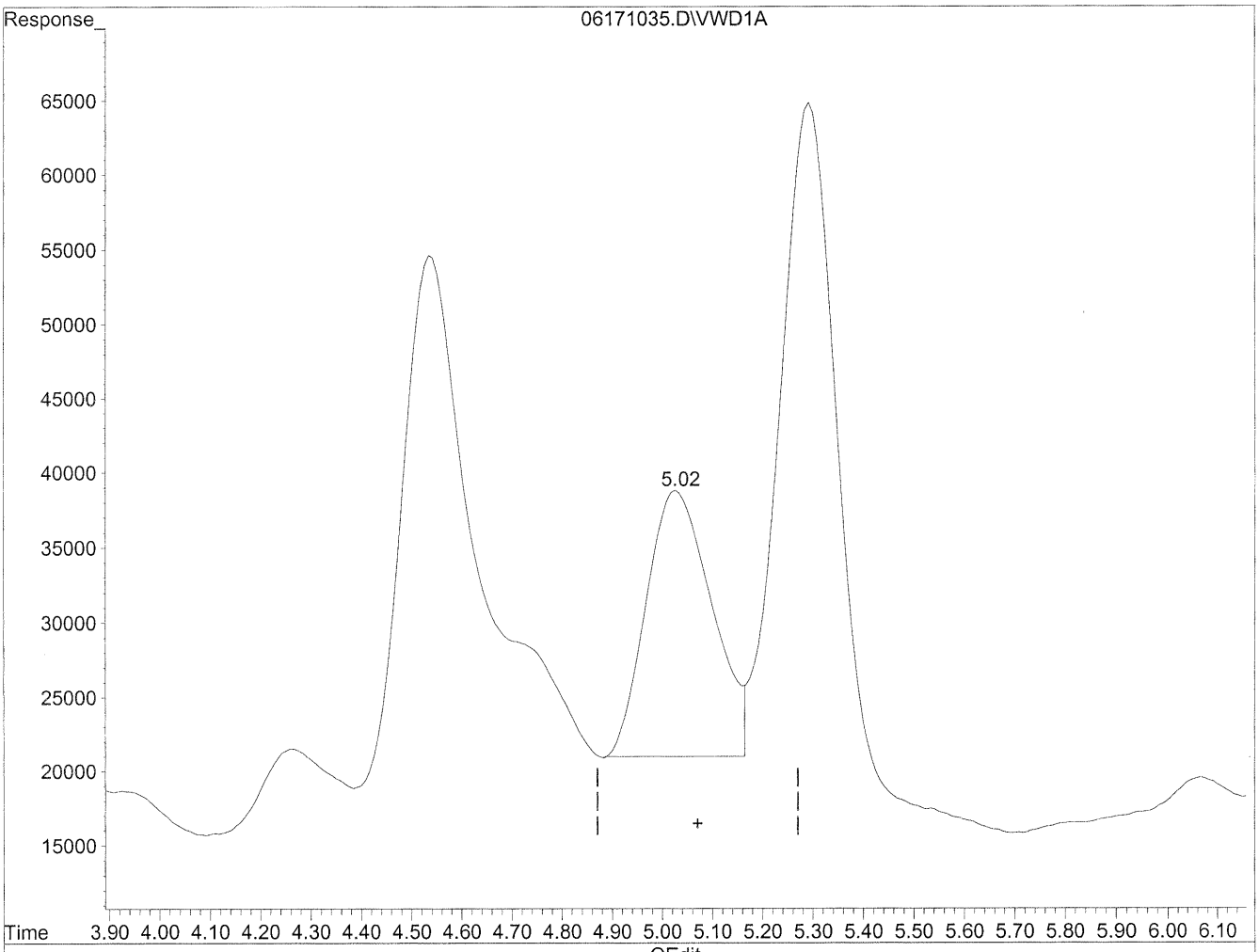
response 2486381

(+) = Expected Retention Time

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171035.D Vial: 125
Acq On : 17-Jun-2010, 15:28:19 Operator: HC/SM
Sample : P1001953-010 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.02min 454.996ng/ml m

response 1614193

HC 6/18/10 BC

6/21/10

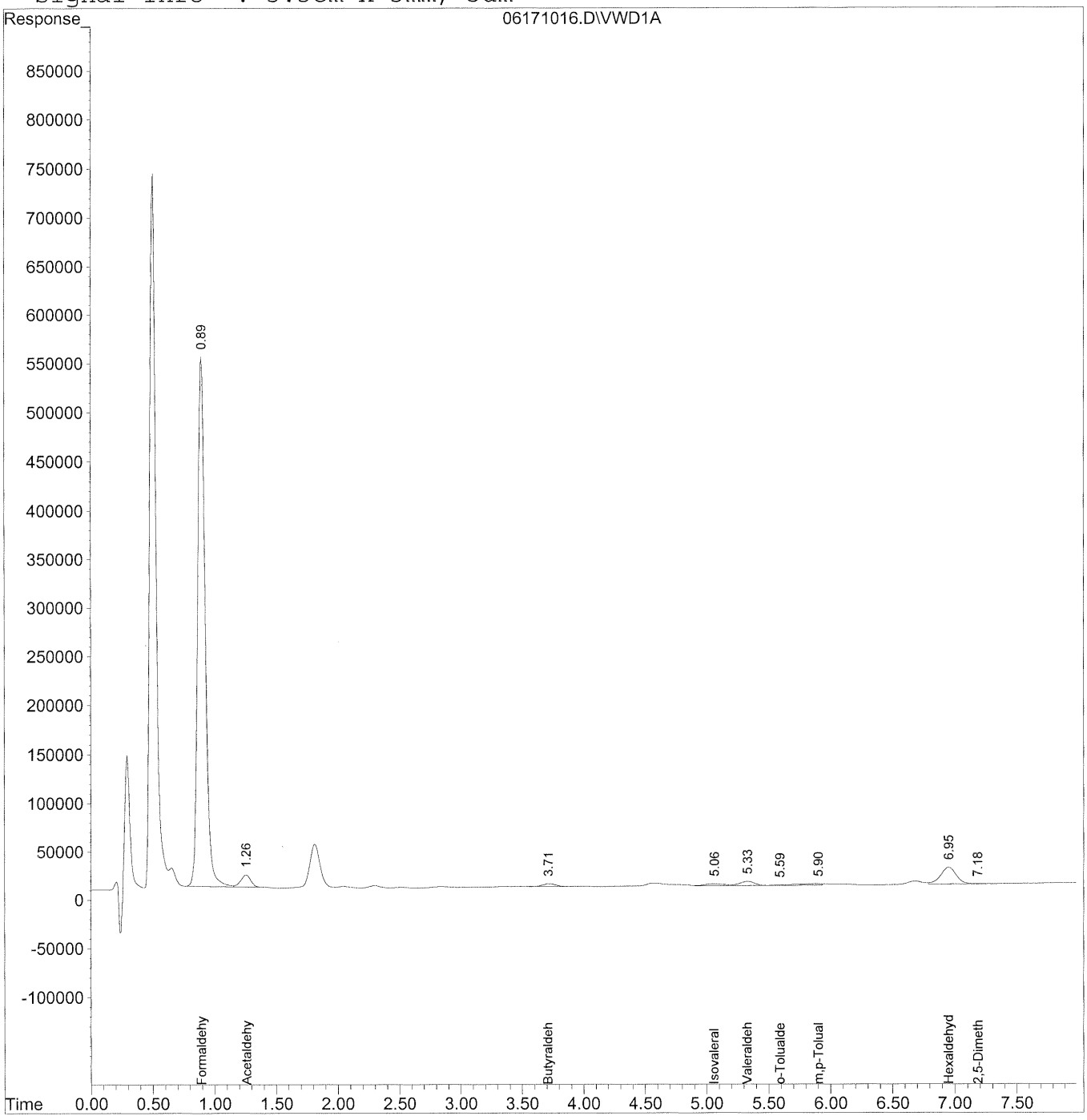
(+) = Expected Retention Time

06171035.D TO110510.M Fri Jun 18 08:41:11 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171016.D Vial: 112
Acq On : 17-Jun-2010, 12:11:14 Operator: HC/SM
Sample : P1001953-010 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 12:31 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171016.D Vial: 112
Acq On : 17-Jun-2010, 12:11:14 Operator: HC/SM
Sample : P1001953-010 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 12:31 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	23003810	2464.815	ng/ml
2)	Acetaldehyde	1.26	691174	102.621	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.72	223391	55.441	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	5.06	229621	64.724	ng/ml
8)	Valeraldehyde	5.33	354464	105.665	ng/ml
9)	o-Tolualdehyde	5.60f	17361	8.529	ng/ml
10)	m,p-Tolualdehyde	5.90	208433	88.975	ng/ml
11)	Hexaldehyde	6.95	1525680	530.602	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.18f	13072	6.794	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111047**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-011

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 19225 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**50**	**26**	0.11	**21**	0.086	
75-07-0	**Acetaldehyde**	**2.2**	**1.4**	0.12	**0.76**	0.069	
123-38-6	**Propionaldehyde**	**0.87**	**1.2**	0.27	**0.49**	0.11	
123-72-8	**Butyraldehyde**	**1.5**	**7.2**	0.95	**2.4**	0.32	
100-52-7	**Benzaldehyde**	**2.9**	**1.6**	0.11	**0.37**	0.026	
590-86-3	**Isovaleraldehyde**	**0.90**	**0.76**	0.17	**0.22**	0.048	
110-62-3	**Valeraldehyde**	**2.7**	**5.1**	0.39	**1.5**	0.11	
66-25-1	**n-Hexaldehyde**	**11**	**32**	0.58	**7.9**	0.14	

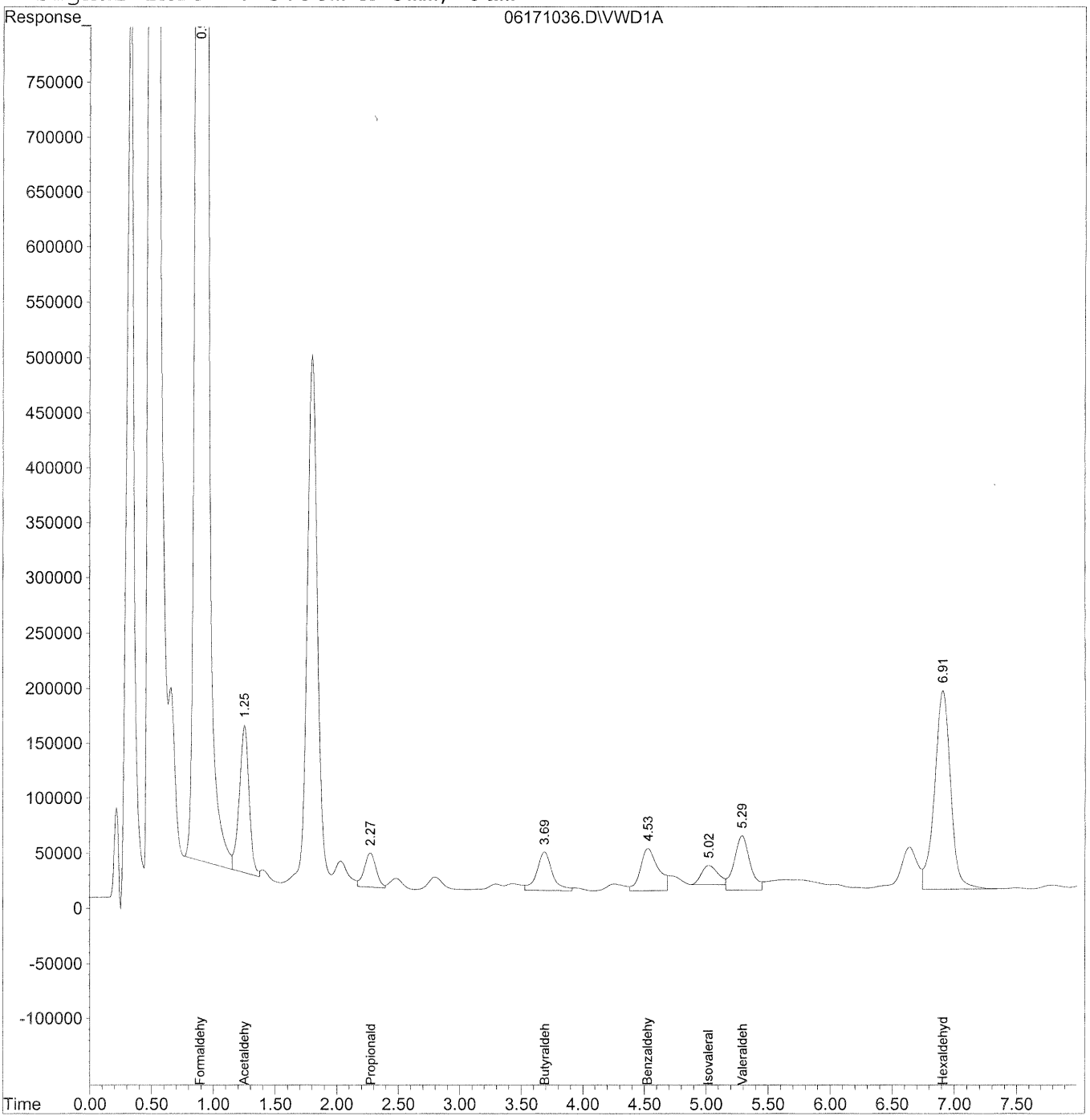
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Rc Date: 6/24/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171036.D Vial: 126
Acq On : 17-Jun-2010, 15:38 Operator: HC/SM
Sample : P1001953-011 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:11 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171036.D Vial: 126
Acq On : 17-Jun-2010, 15:38 Operator: HC/SM
Sample : P1001953-011 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:11 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

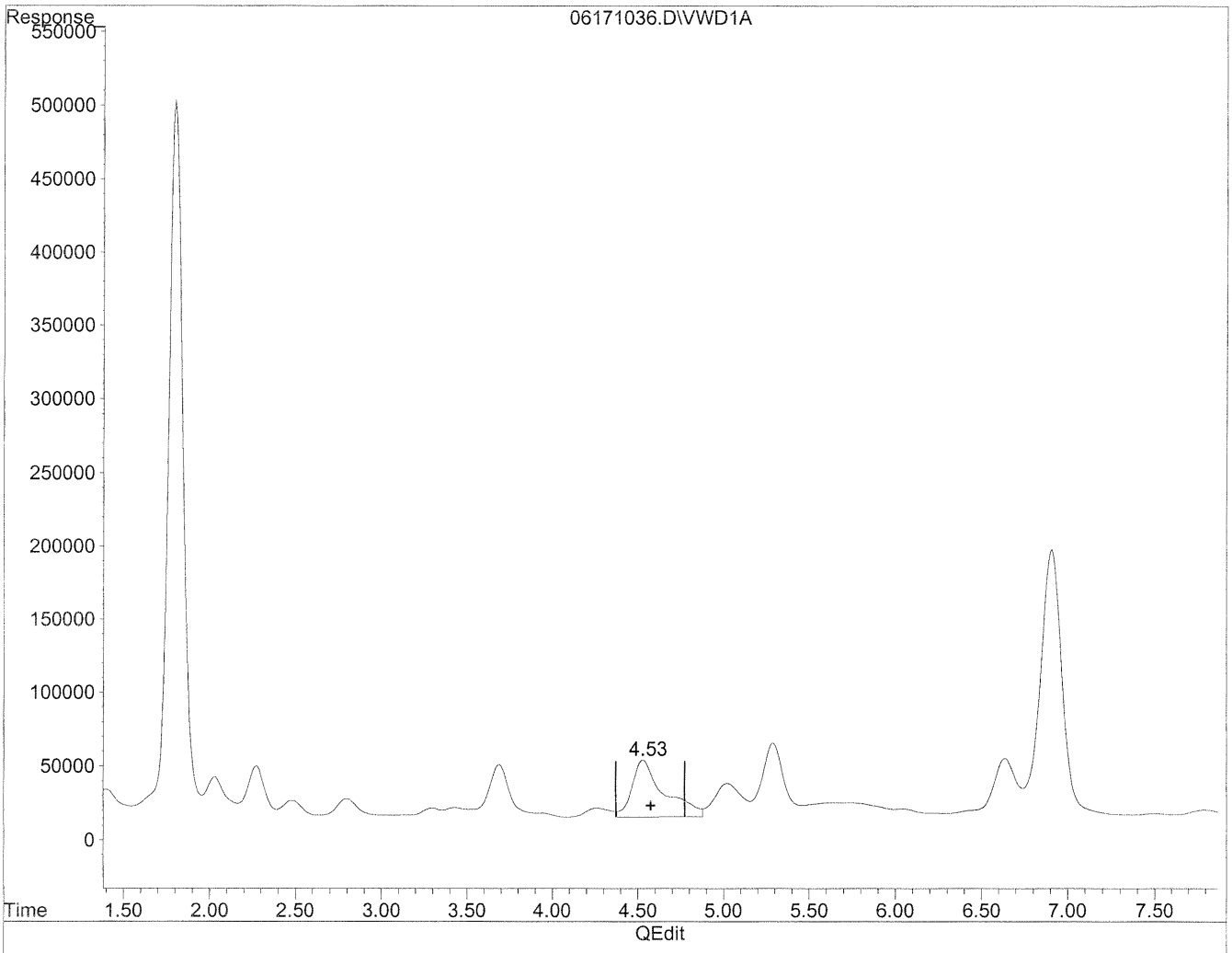
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	233087589	24974.898	ng/ml
2)	Acetaldehyde	1.26	7469273	1108.986	ng/ml
3)	Propionaldehyde	2.27	2122844	436.618	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.69	3069098	761.694	ng/ml
6)	Benzaldehyde	4.53	3870808	1430.072	ng/mlm
7)	Isovaleraldehyde	5.02	1590799	448.402	ng/mlm
8)	Valeraldehyde	5.29	4458969	1329.205	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/mld
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.91	16016109	5570.098	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171036.D Vial: 126
Acq On : 17-Jun-2010, 15:38:55 Operator: HC/SM
Sample : P1001953-011 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:41 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.53min 1824.153ng/ml

response 4937477

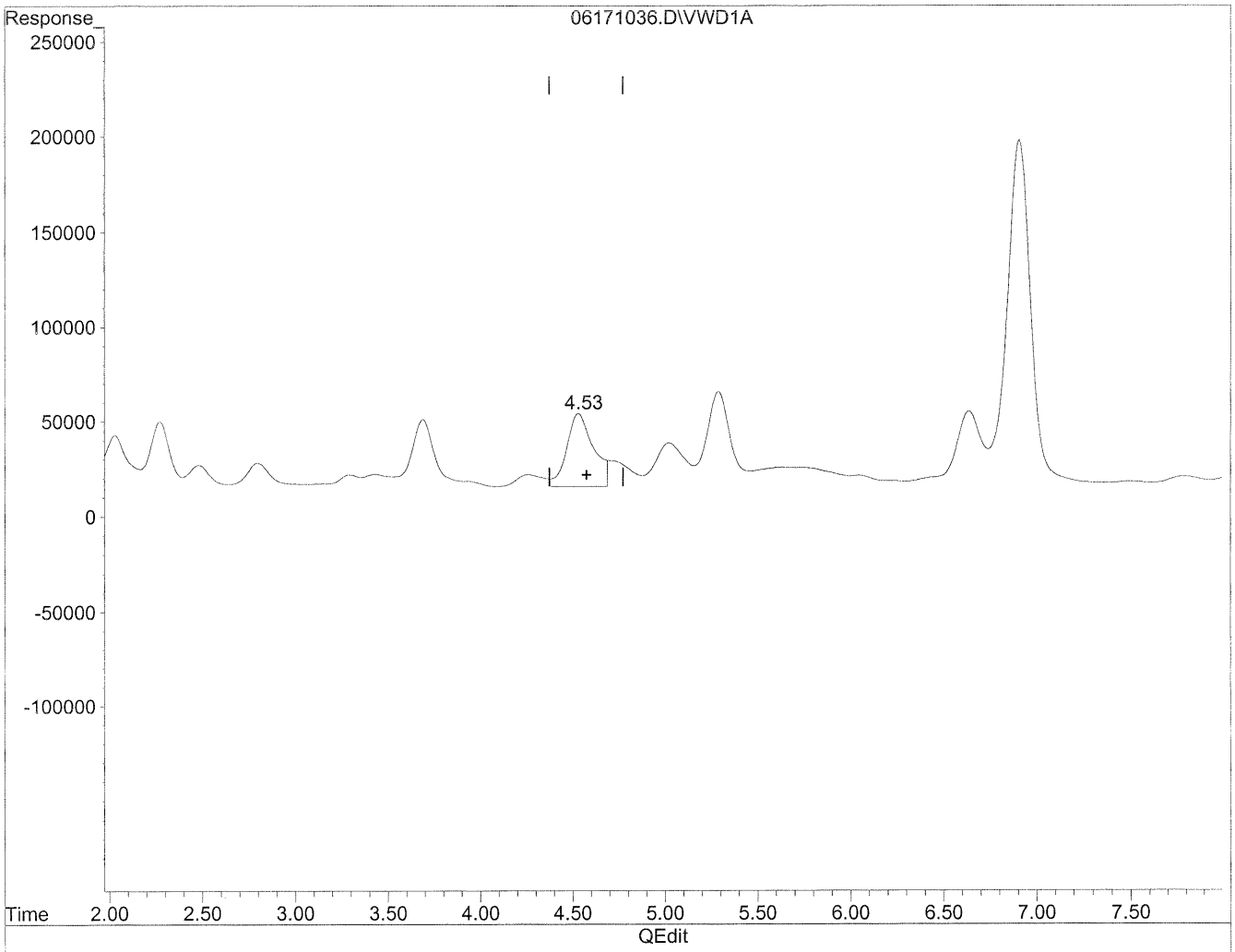
(+) = Expected Retention Time

06171036.D TO110510.M Fri Jun 18 08:43:47 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171036.D Vial: 126
Acq On : 17-Jun-2010, 15:38:55 Operator: HC/SM
Sample : P1001953-011 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:41 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.53min 1430.072ng/ml m

response 3870808

HC 6/18/10 STL

6/21/10

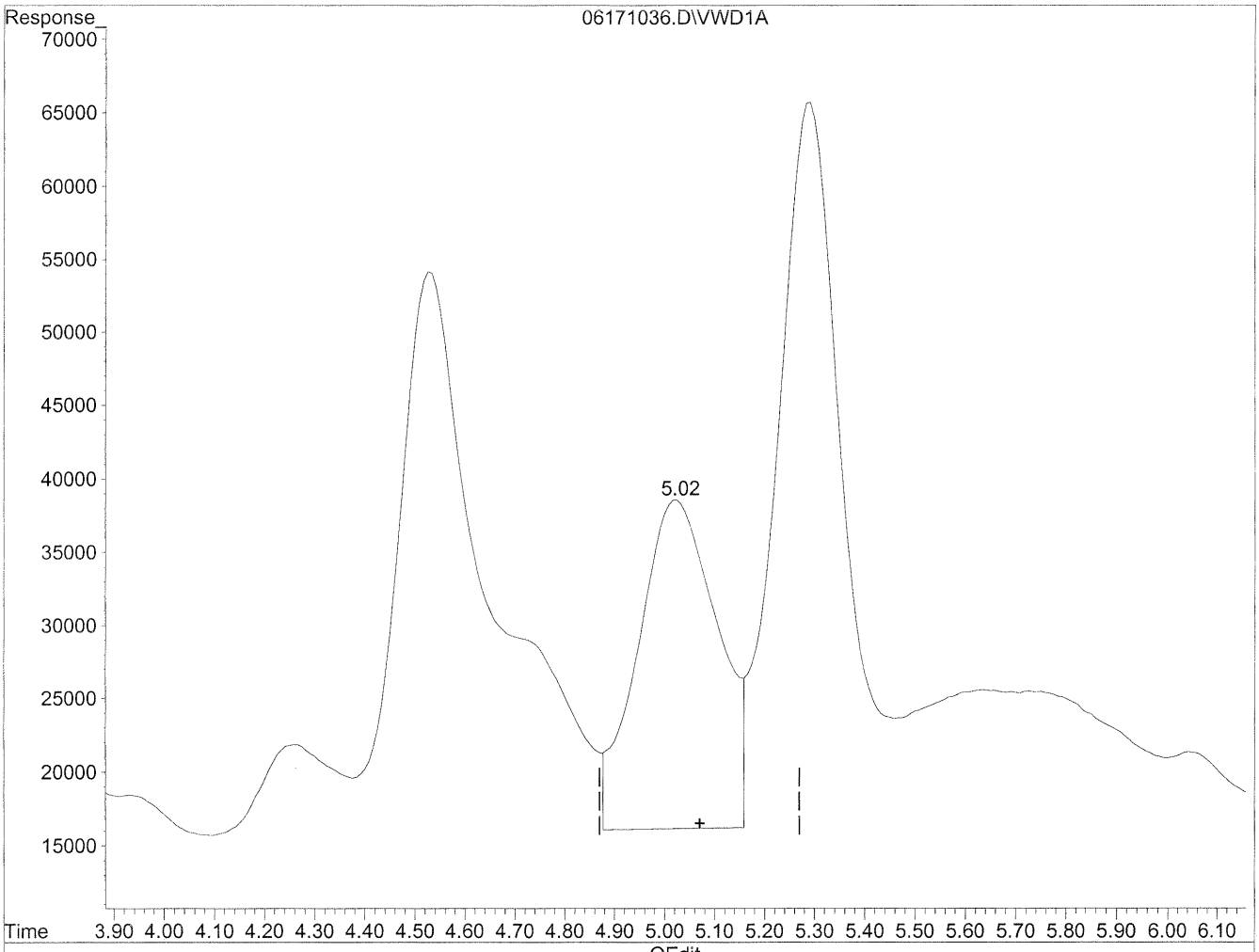
(+) = Expected Retention Time

06171036.D TO110510.M Fri Jun 18 08:44:19 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171036.D Vial: 126
Acq On : 17-Jun-2010, 15:38:55 Operator: HC/SM
Sample : P1001953-011 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:41 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.02min 694.660ng/ml

response 2464450

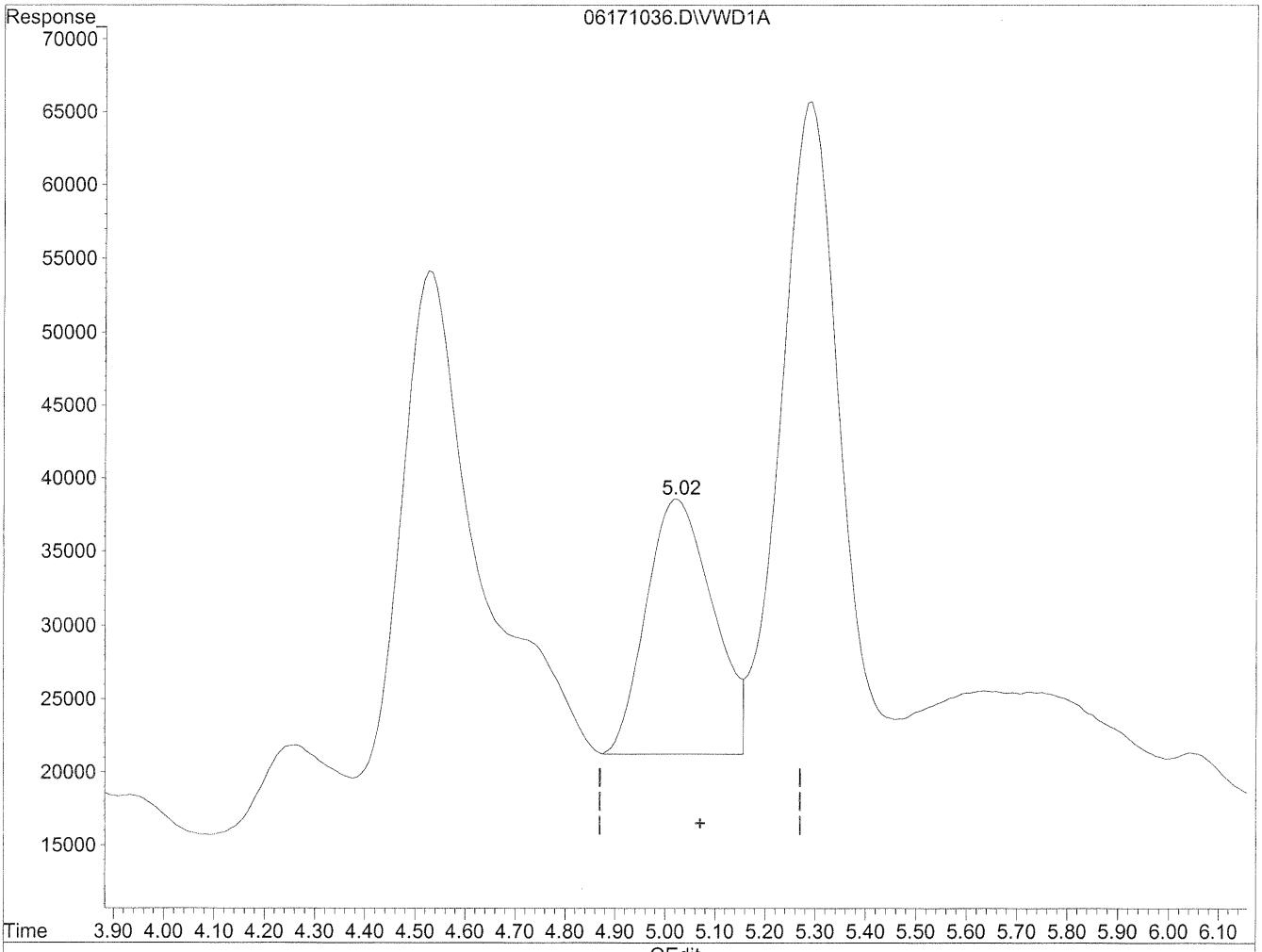
(+) = Expected Retention Time

06171036.D TO110510.M Fri Jun 18 08:44:23 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171036.D Vial: 126
Acq On : 17-Jun-2010, 15:38:55 Operator: HC/SM
Sample : P1001953-011 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:41 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.02min 448.402ng/ml m

response 1590799

HC 6/18/10
BC
6/21/10

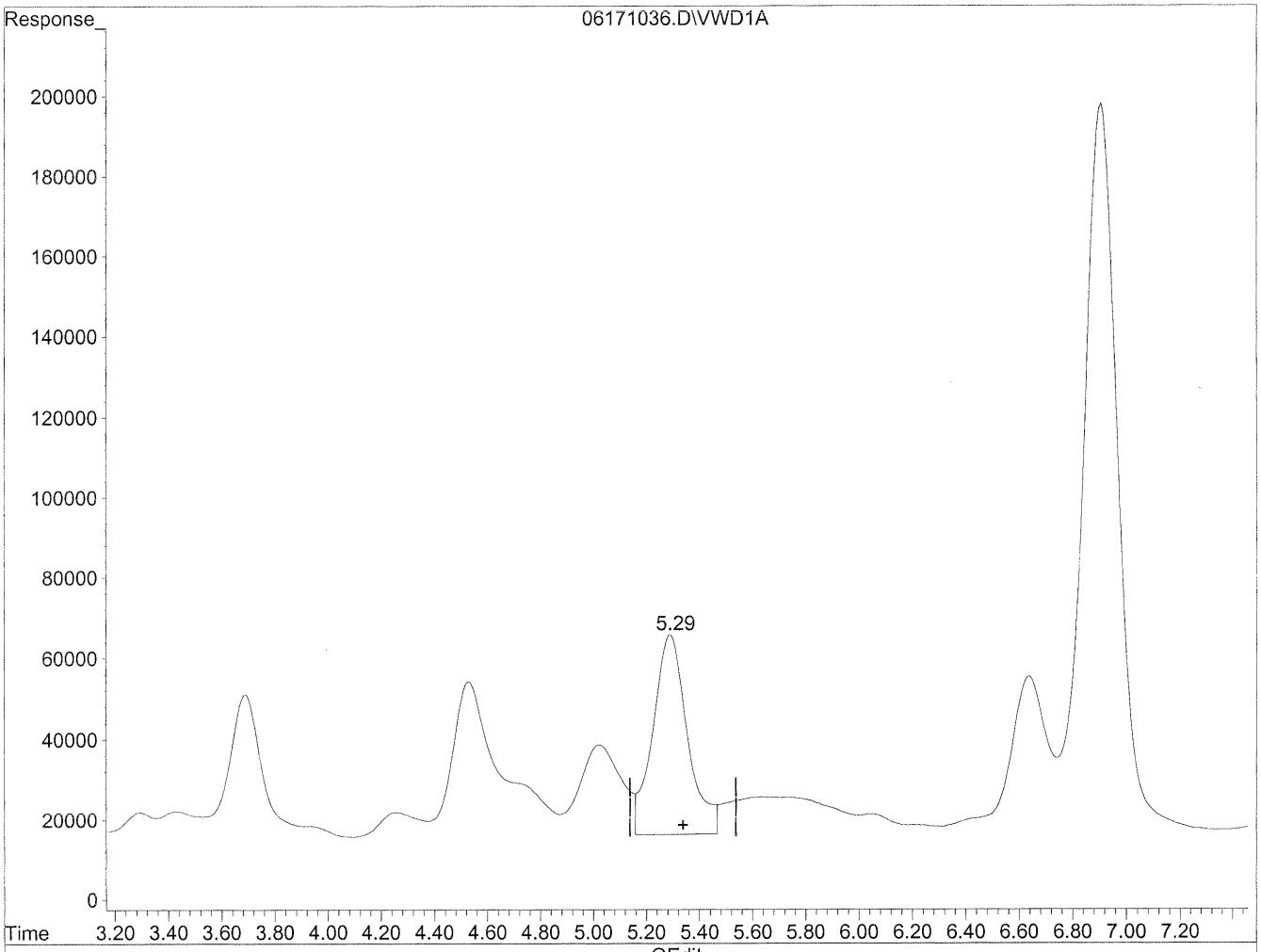
(+) = Expected Retention Time

06171036.D TO110510.M Fri Jun 18 08:44:52 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171036.D Vial: 126
Acq On : 17-Jun-2010, 15:38:55 Operator: HC/SM
Sample : P1001953-011 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:41 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.29min 1336.479ng/ml

response 4483372

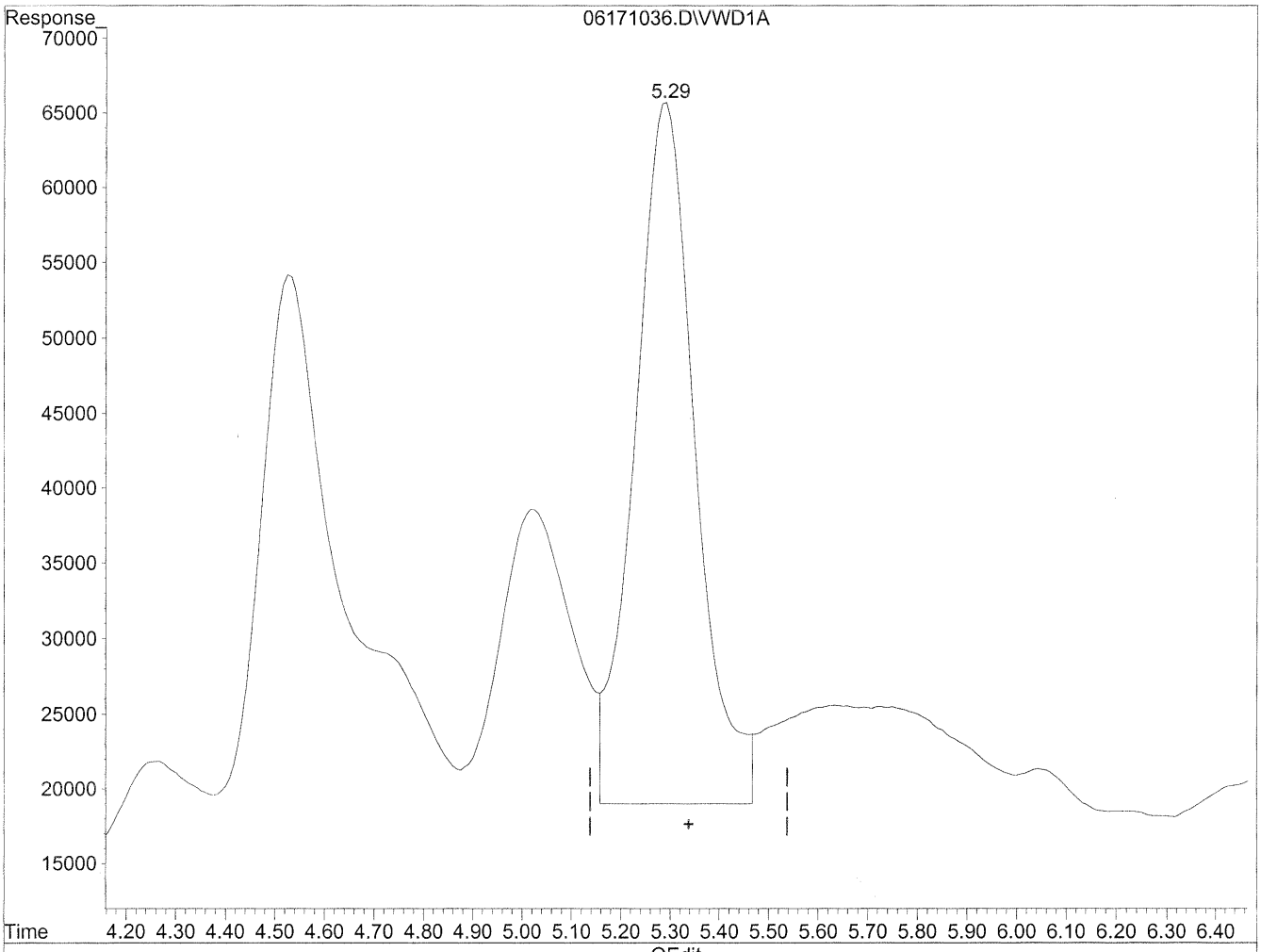
(+) = Expected Retention Time

06171036.D TO110510.M Fri Jun 18 08:45:06 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171036.D Vial: 126
Acq On : 17-Jun-2010, 15:38:55 Operator: HC/SM
Sample : P1001953-011 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.29min 1193.226ng/ml m

response 4002814

HC 6/18/10 BC

fixed the BC see next page MN 6/21/10

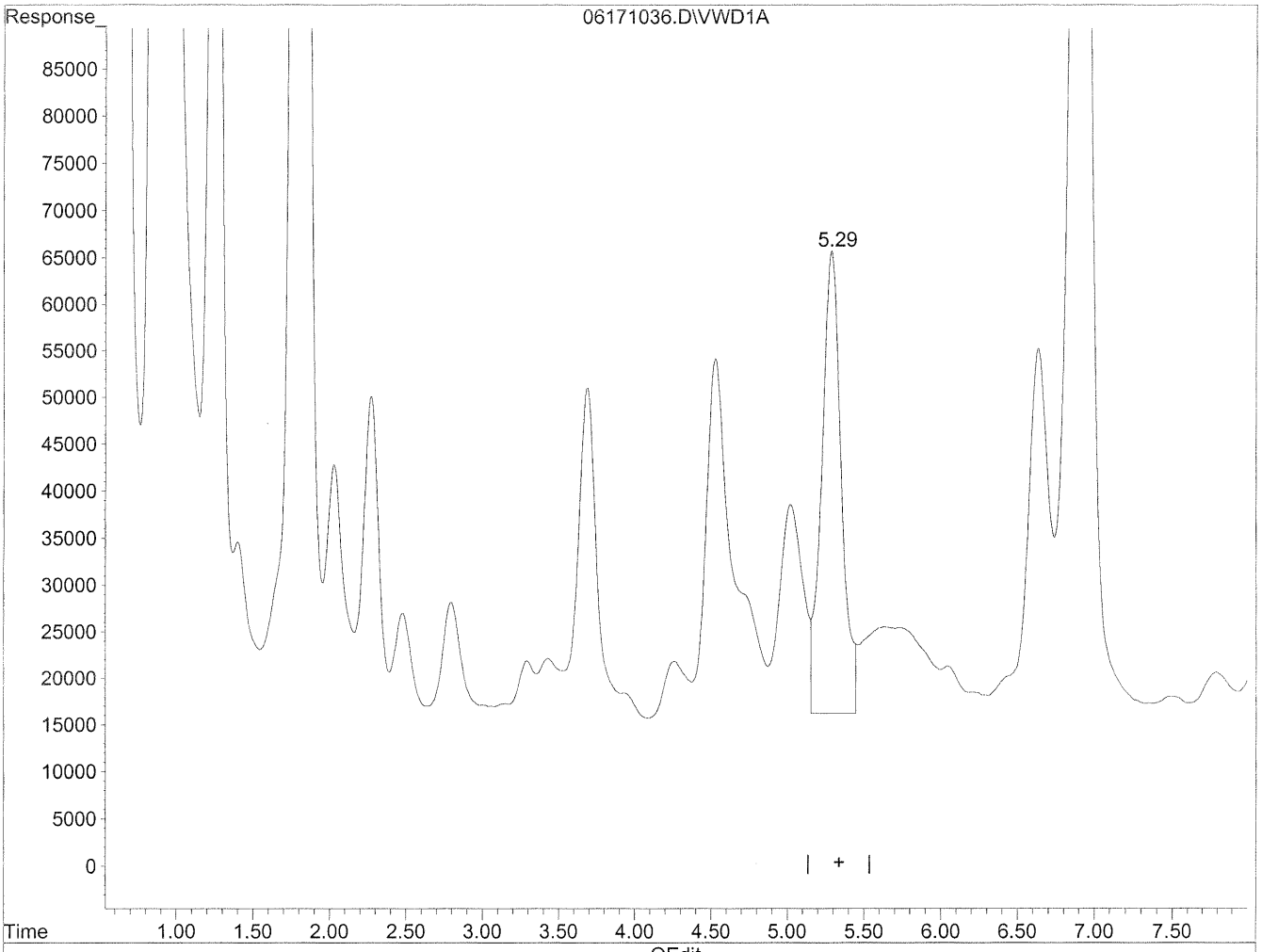
(+) = Expected Retention Time

06171036.D TO110510.M Fri Jun 18 10:11:40 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171036.D Vial: 126
Acq On : 17-Jun-2010, 15:38 Operator: HC/SM
Sample : P1001953-011 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:11 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.29min 1329.205ng/ml m

response 4458969

BL fixed md 6/21/10

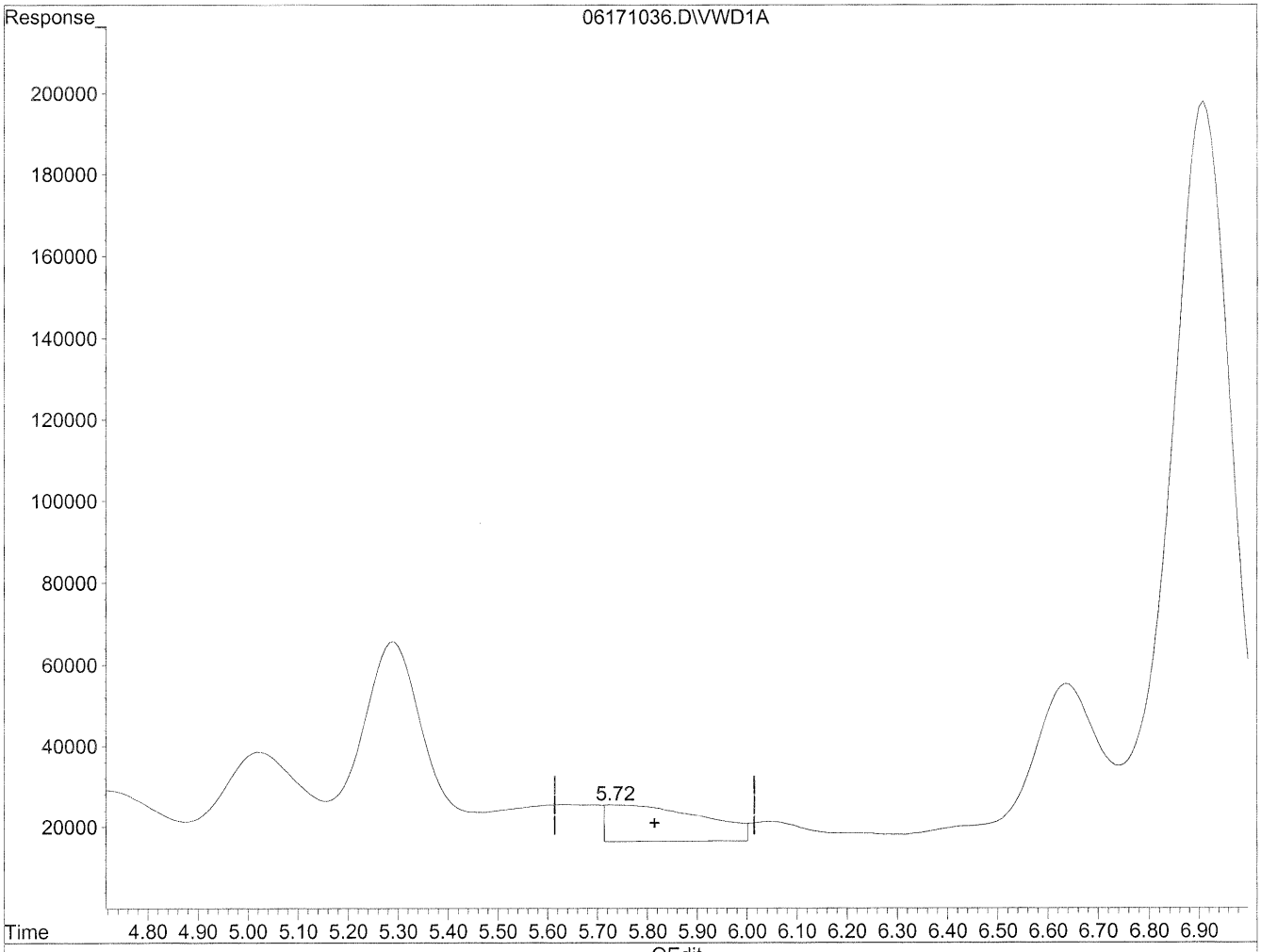
(+) = Expected Retention Time

06171036.D TO110510.M Mon Jun 21 11:12:09 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171036.D Vial: 126
Acq On : 17-Jun-2010, 15:38:55 Operator: HC/SM
Sample : P1001953-011 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:45 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.73min 600.237ng/ml

response 1221805

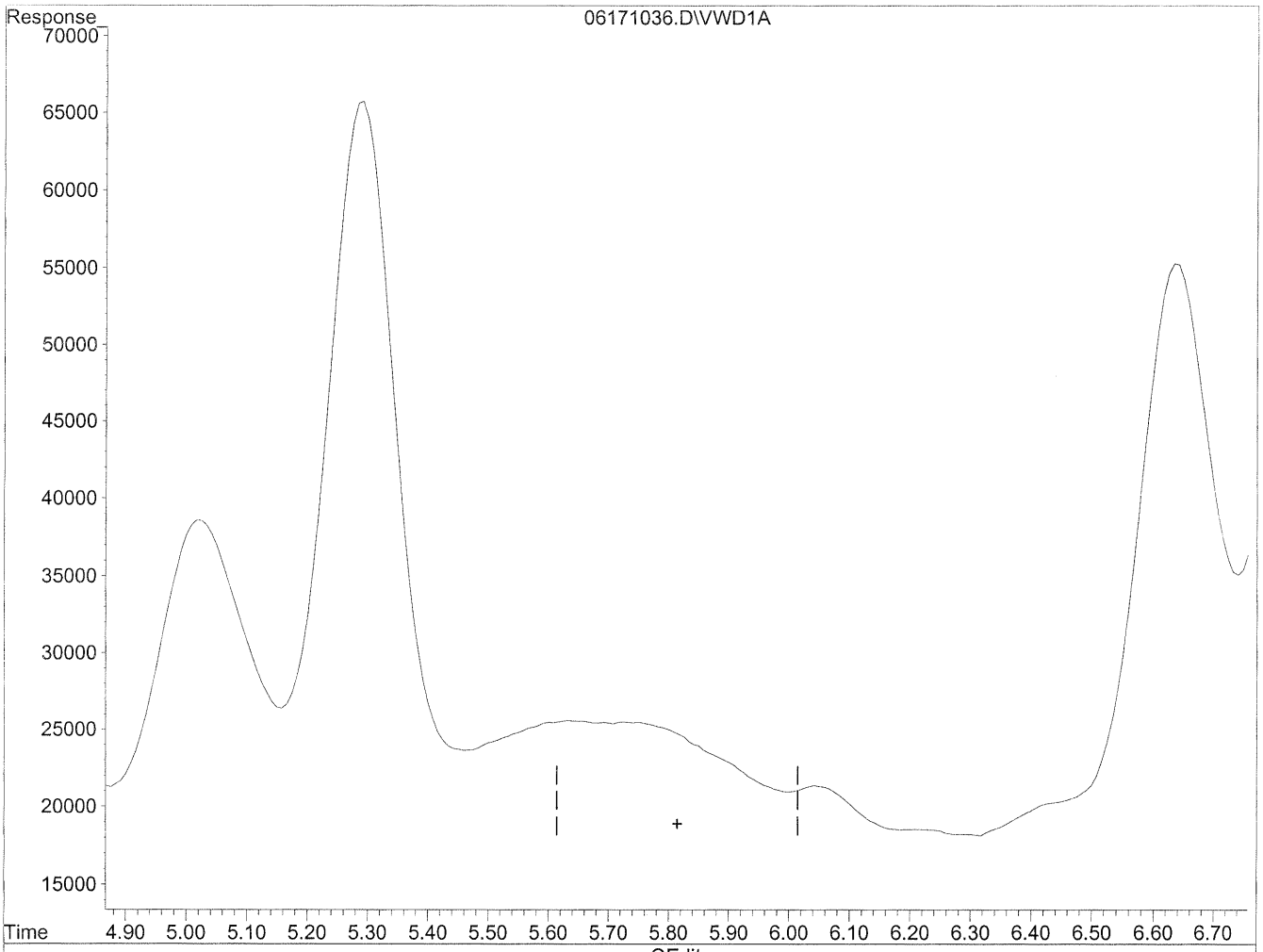
(+) = Expected Retention Time

06171036.D TO110510.M Fri Jun 18 08:46:02 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171036.D Vial: 126
Acq On : 17-Jun-2010, 15:38:55 Operator: HC/SM
Sample : P1001953-011 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:45 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

0.00min 0.000ng/ml d

response 0

HC 6/18/10 MP 1

6/21/10

(+) = Expected Retention Time

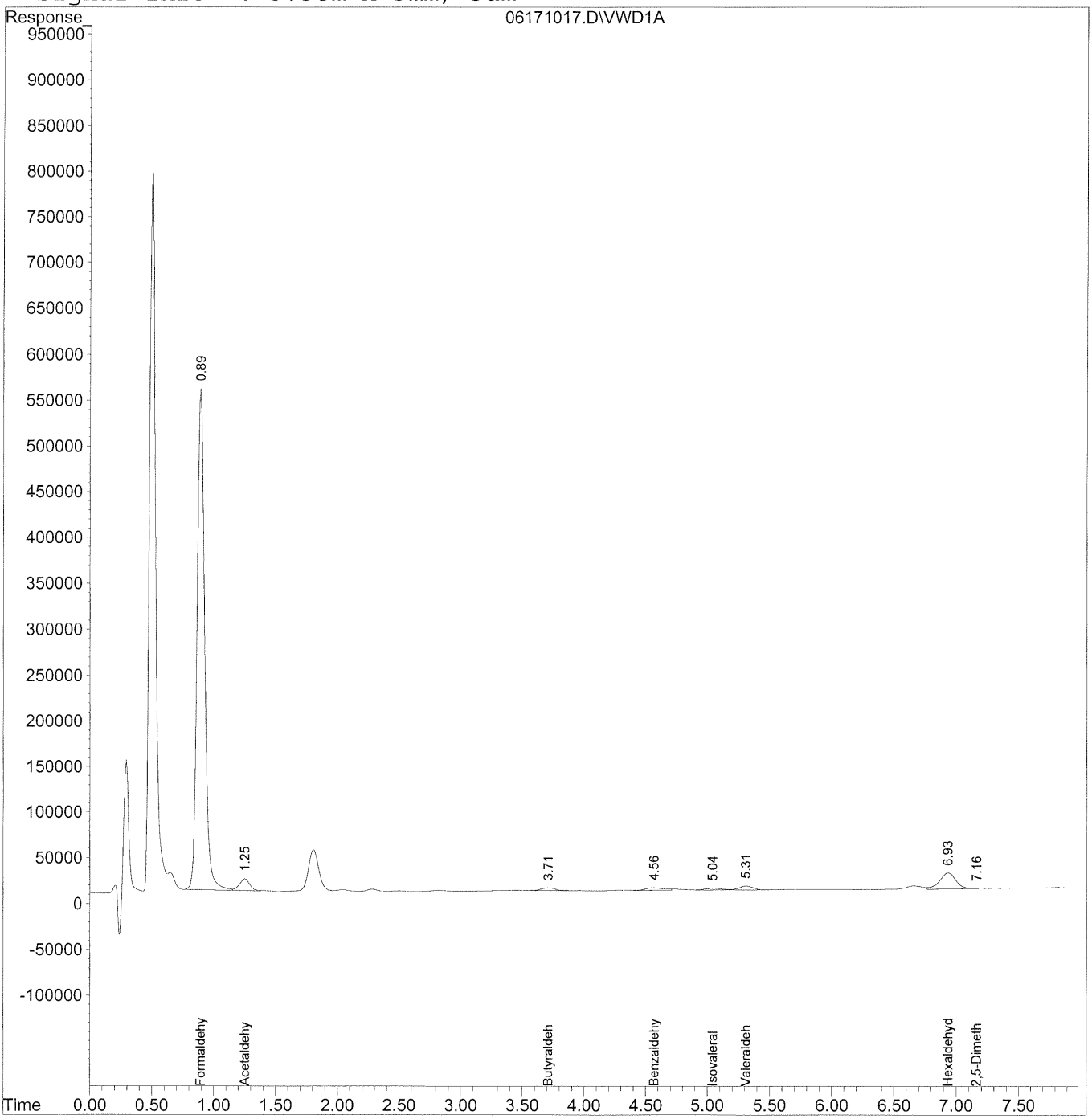
06171036.D TO110510.M Fri Jun 18 08:46:05 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171017.D Vial: 113
Acq On : 17-Jun-2010, 12:21:49 Operator: HC/SM
Sample : P1001953-011 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 12:31 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171017.D Vial: 113
Acq On : 17-Jun-2010, 12:21:49 Operator: HC/SM
Sample : P1001953-011 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 12:31 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

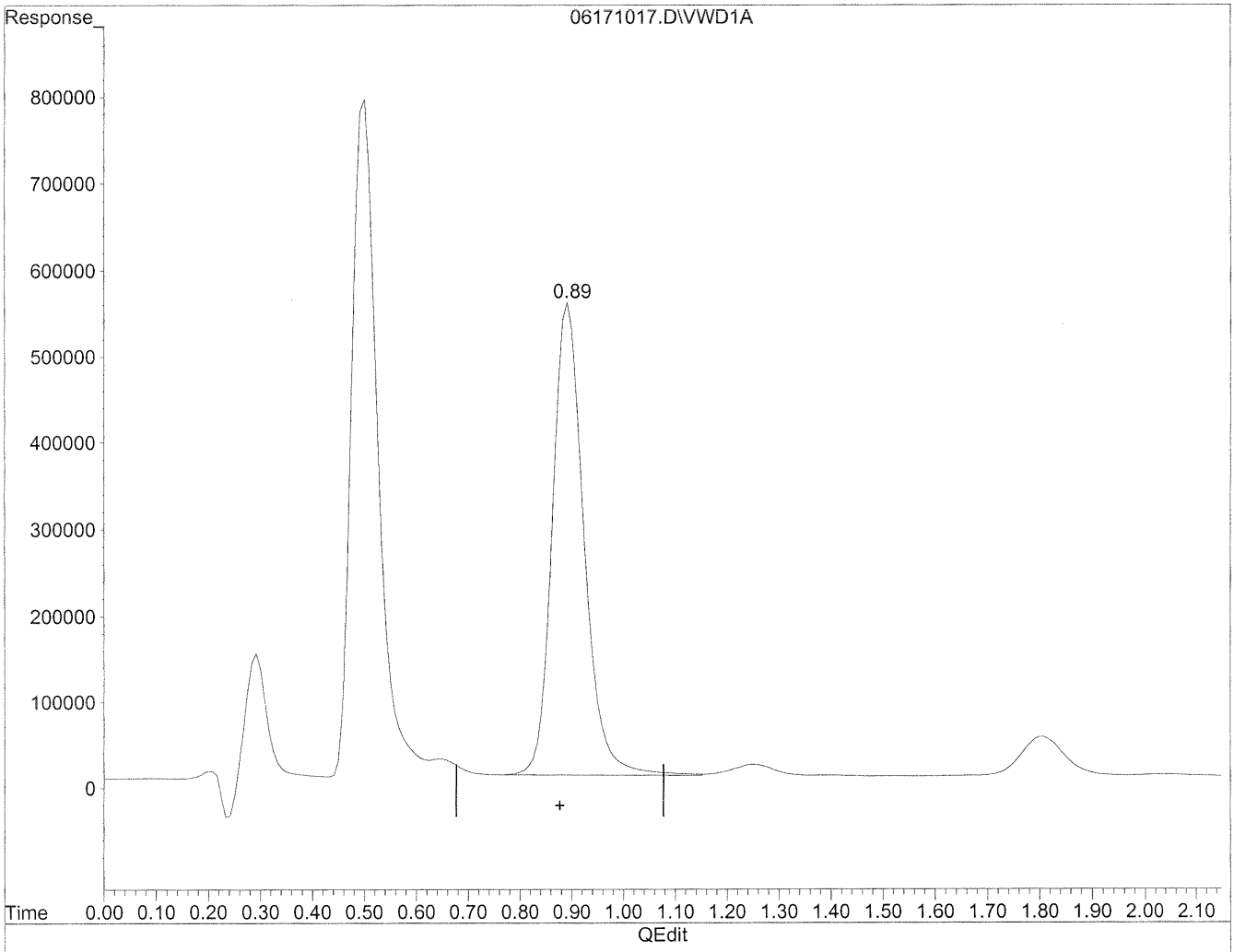
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	23300979	2496.656	ng/ml
2)	Acetaldehyde	1.25	751460	111.572	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.71	243099	60.333	ng/ml
6)	Benzaldehyde	4.57f	294953	108.971	ng/ml
7)	Isovaleraldehyde	5.04	183497	51.723	ng/ml
8)	Valeraldehyde	5.31	322964	96.275	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.93	1544055	536.993	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.16	6388	3.320	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171017.D Vial: 113
Acq On : 17-Jun-2010, 12:21:49 Operator: HC/SM
Sample : P1001953-011 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 12:31 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 2496.656ng/ml

response 23300979

(+) = Expected Retention Time

06171017.D TO110510.M Fri Jun 18 08:23:26 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111048**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-012

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 19225 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**21**	**11**	0.11	**9.0**	0.086	
75-07-0	**Acetaldehyde**	**1.9**	**1.2**	0.12	**0.65**	0.069	
123-38-6	**Propionaldehyde**	**0.58**	**0.78**	0.27	**0.33**	0.11	
123-72-8	**Butyraldehyde**	**1.2**	**5.6**	0.95	**1.9**	0.32	**M**
100-52-7	**Benzaldehyde**	**1.5**	**0.87**	0.11	**0.20**	0.026	
590-86-3	**Isovaleraldehyde**	**0.39**	**0.34**	0.17	**0.096**	0.048	
110-62-3	**Valeraldehyde**	**1.3**	**2.4**	0.39	**0.69**	0.11	
66-25-1	**n-Hexaldehyde**	**5.7**	**16**	0.58	**4.0**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
M = Matrix interference; results may be biased high.
NA = Not applicable.

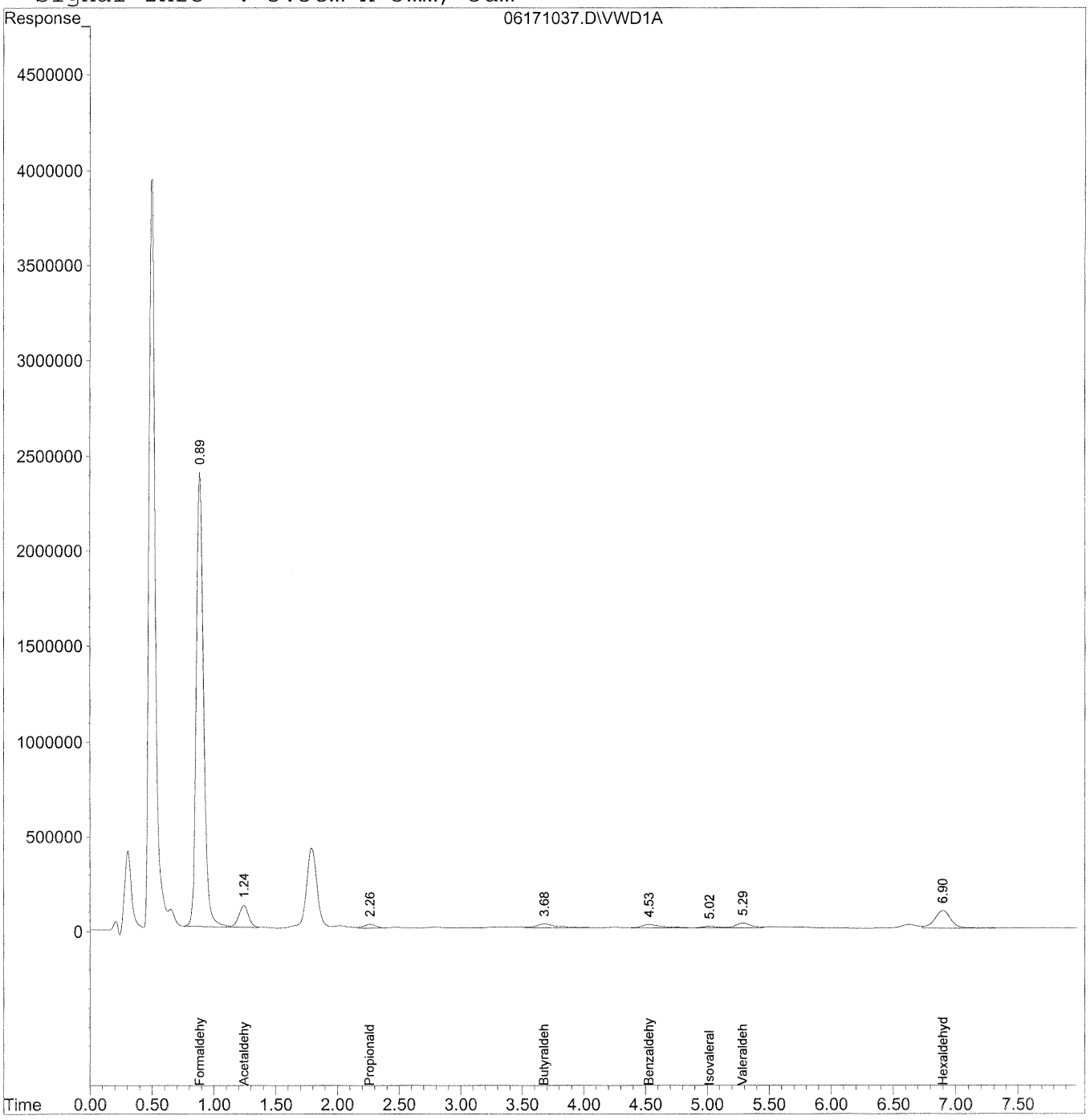
Verified By: _____ Date: 6/24/10

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:55 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:55 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

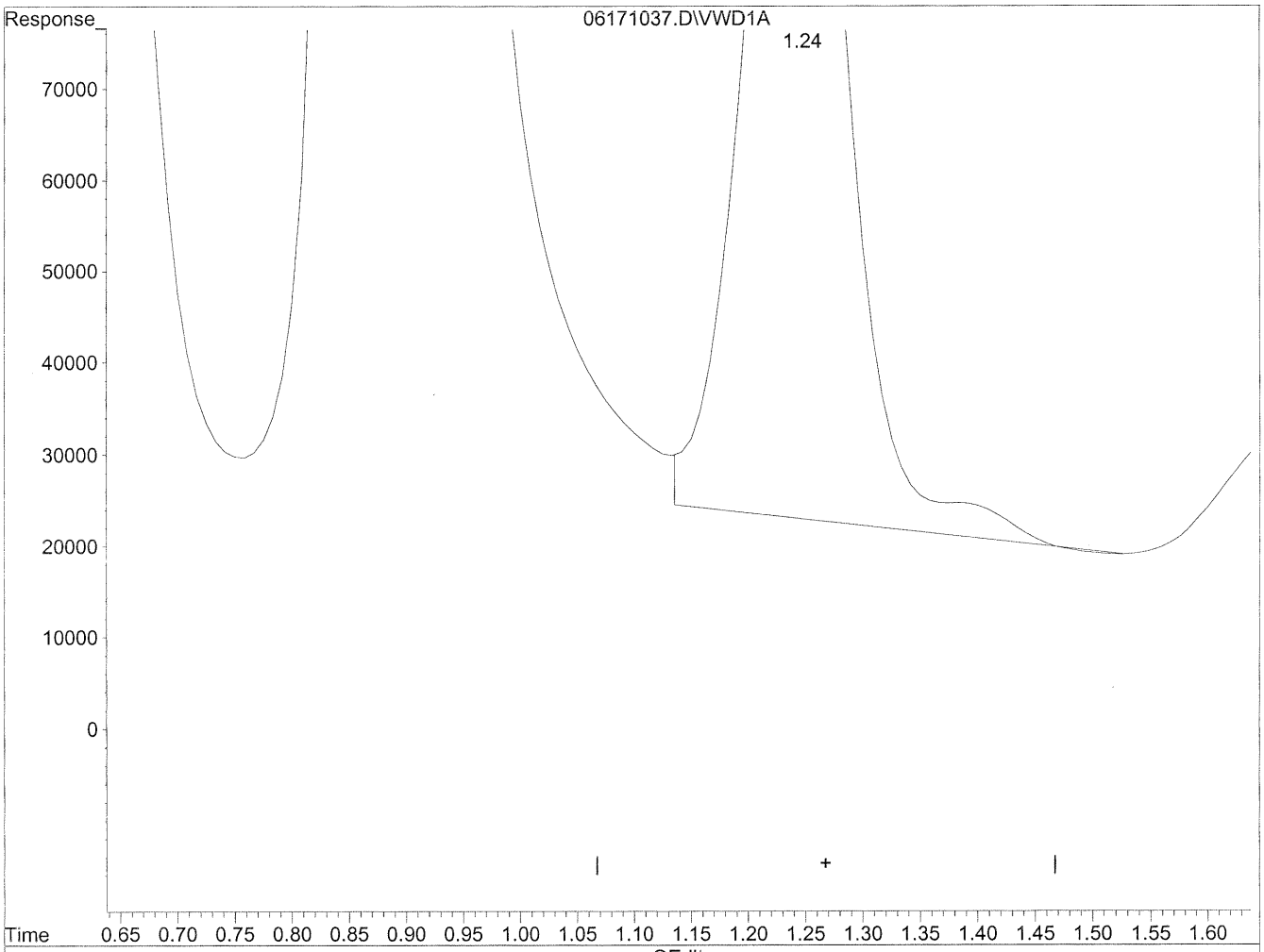
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	99382522	10~~648.651~~	~~ng/ml~~
2)	Acetaldehyde	1.24	6343421	941.827	ng/mlm
3)	Propionaldehyde	2.27	1415890	291.214	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.68	2377019	589.933	ng/mlm
6)	Benzaldehyde	4.53	2077204	767.424	ng/mlm
7)	Isovaleraldehyde	5.02	699566	197.188	ng/mlm
8)	Valeraldehyde	5.29	2129996	634.945	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.90	8201714	2852.400	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 7:56 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.25min 967.475ng/ml

response 6516166

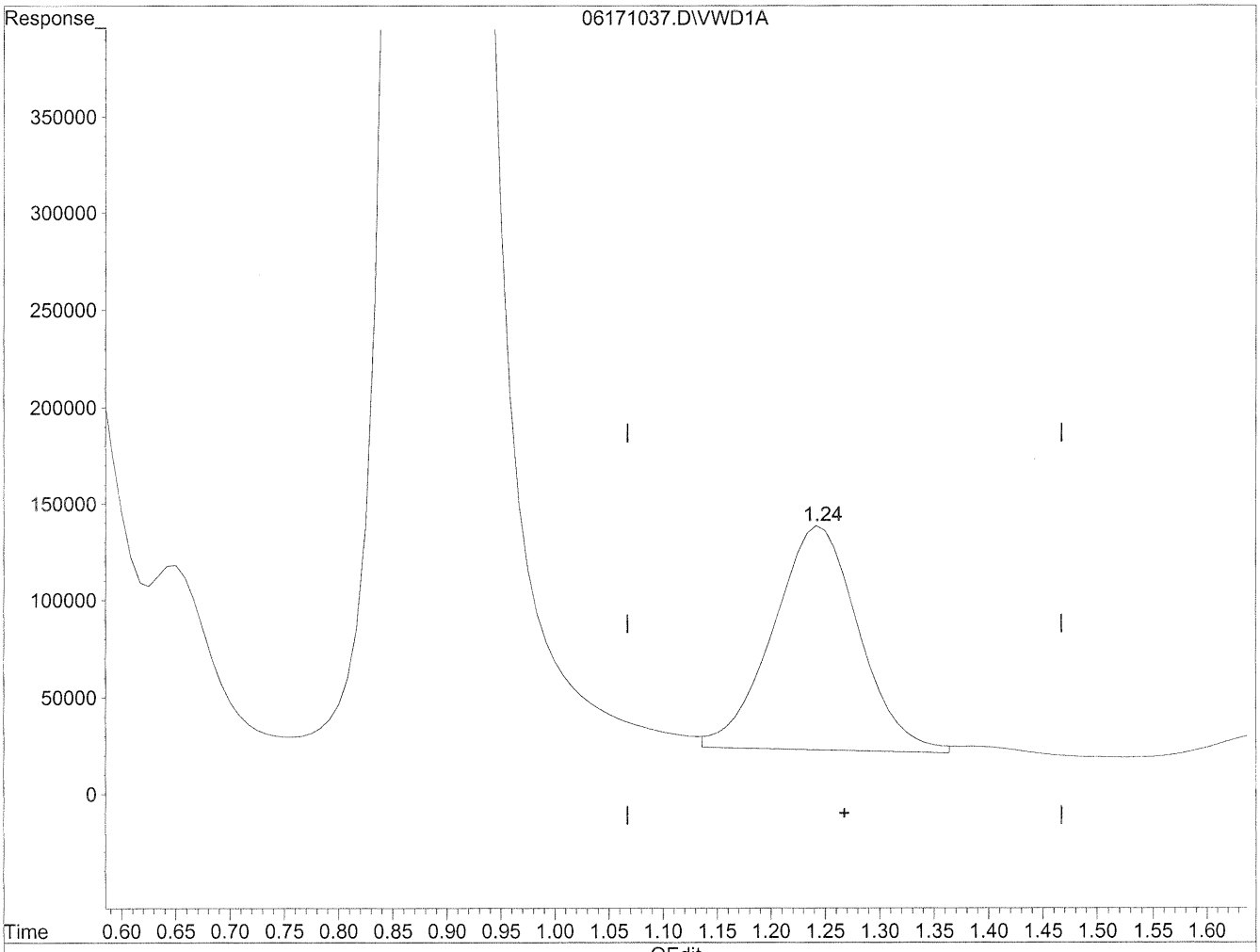
(+) = Expected Retention Time

06171037.D TO110510.M Fri Jun 18 08:50:39 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 7:56 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



QEdit

(2) Acetaldehyde

1.24min 941.827ng/ml m

response 6343421

HC 6/18/10 IC 6/21/10

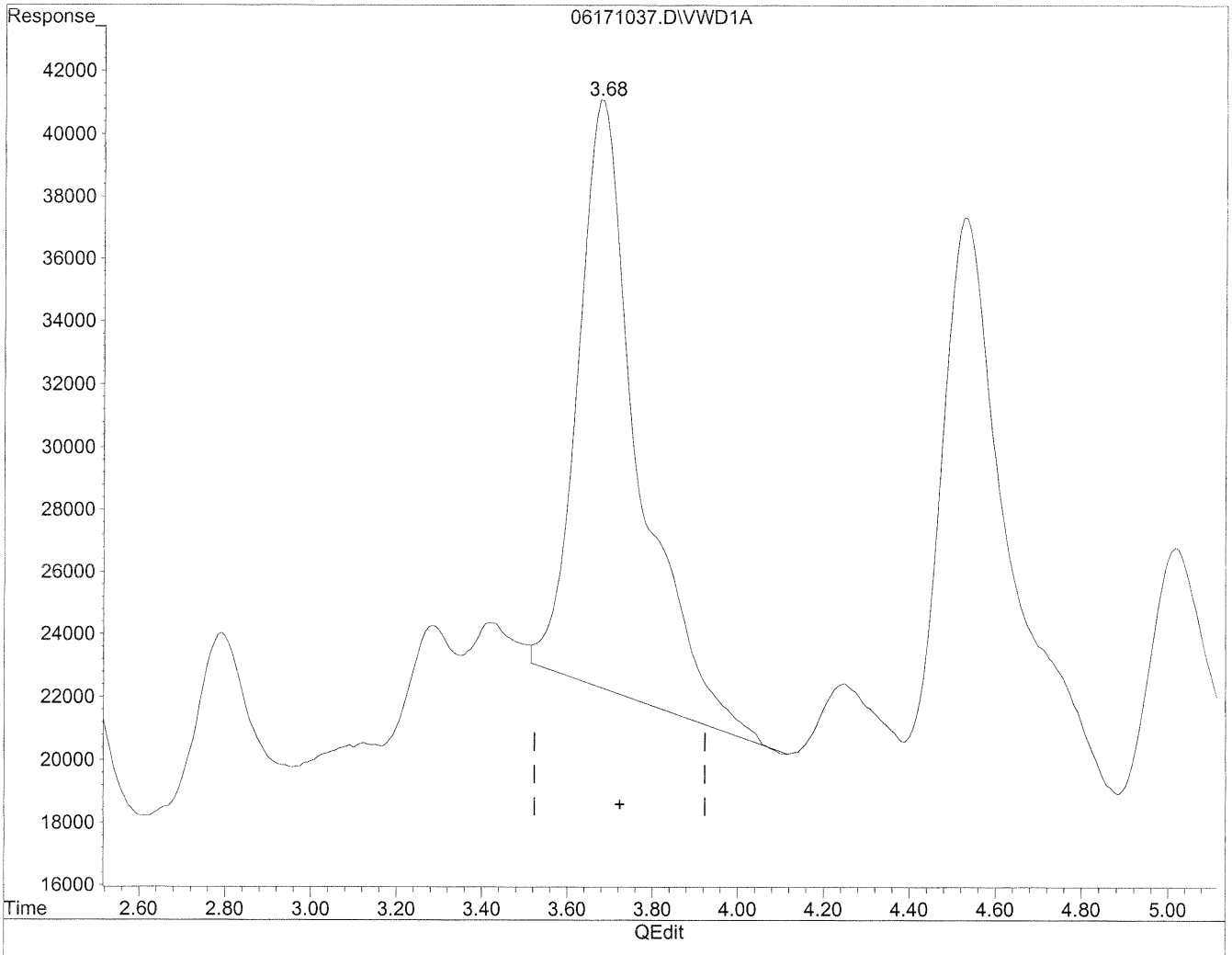
(+) = Expected Retention Time

06171037.D TO110510.M Fri Jun 18 08:50:58 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 7:56 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.68min 463.056ng/ml

response 1865795

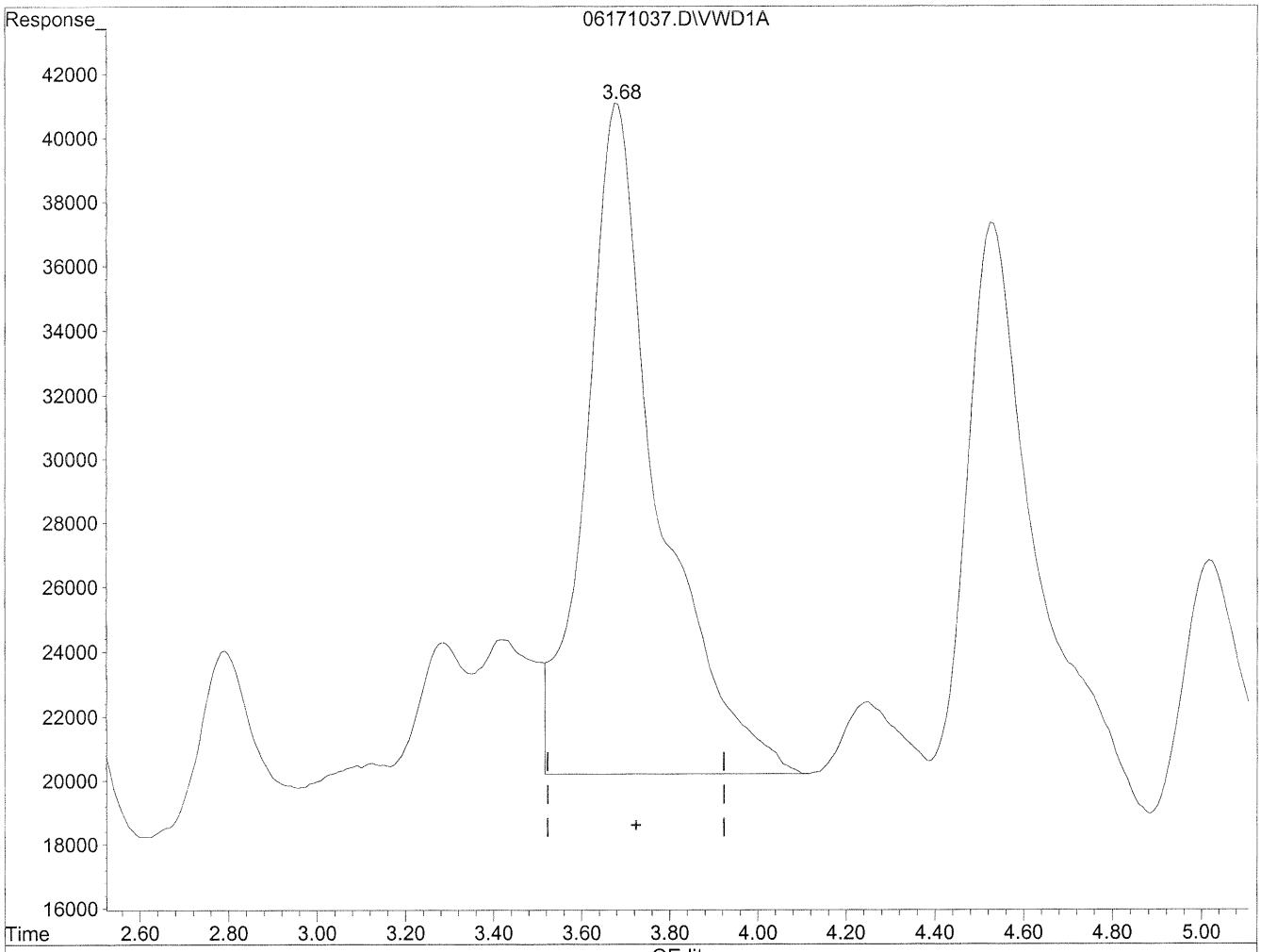
(+) = Expected Retention Time

06171037.D TO110510.M Fri Jun 18 08:51:10 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 7:56 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.68min 589.933ng/ml m

response 2377019

HC 6/18/10
BC, MP

6/21/10

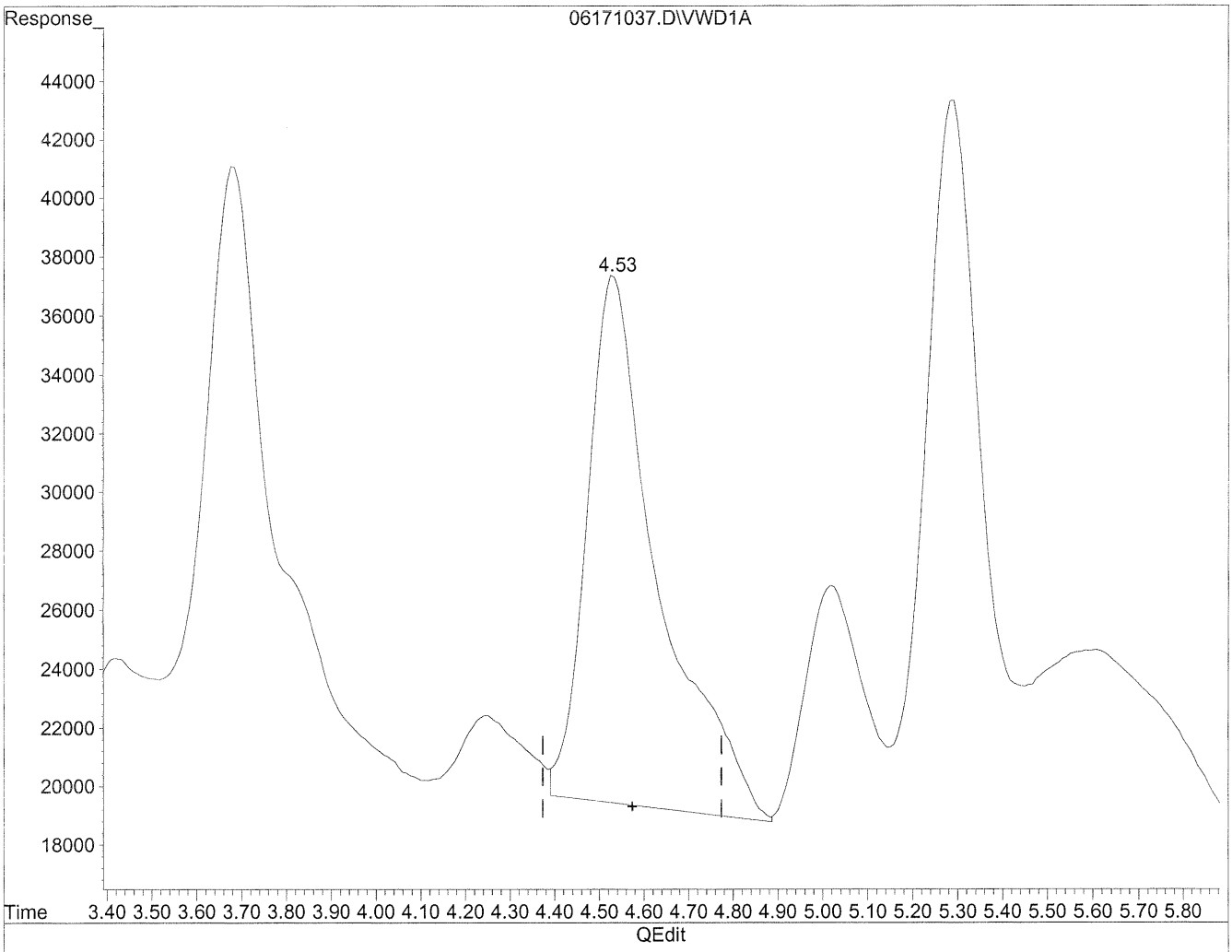
(+) = Expected Retention Time

06171037.D TO110510.M Fri Jun 18 08:51:50 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 7:56 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.53min 732.187ng/ml

response 1981827

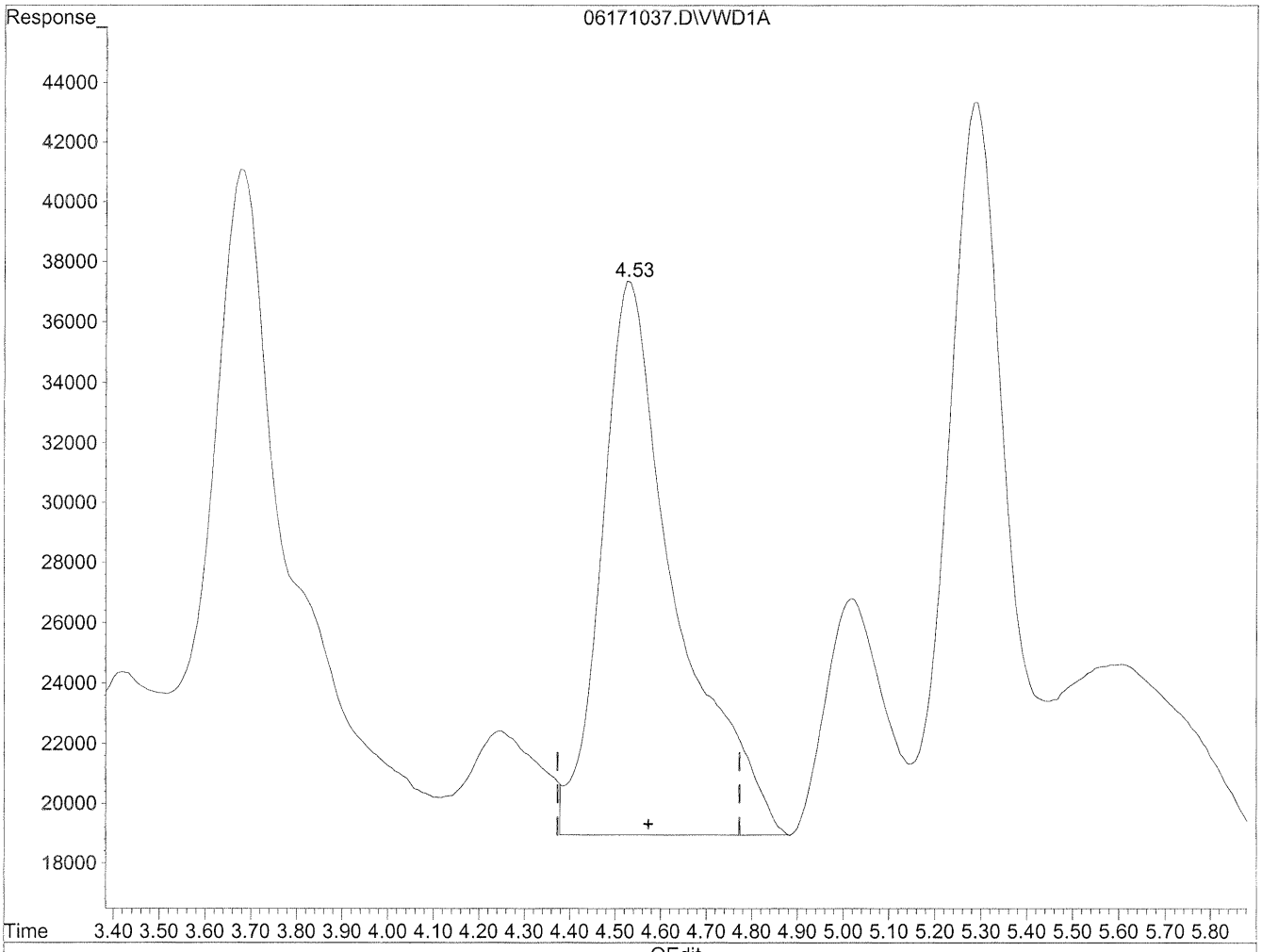
(+) = Expected Retention Time

06171037.D TO110510.M Fri Jun 18 08:52:01 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 7:56 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



QEdit

(6) Benzaldehyde

4.53min 767.424ng/ml m

response 2077204

6/18/10 BC

6/21/10

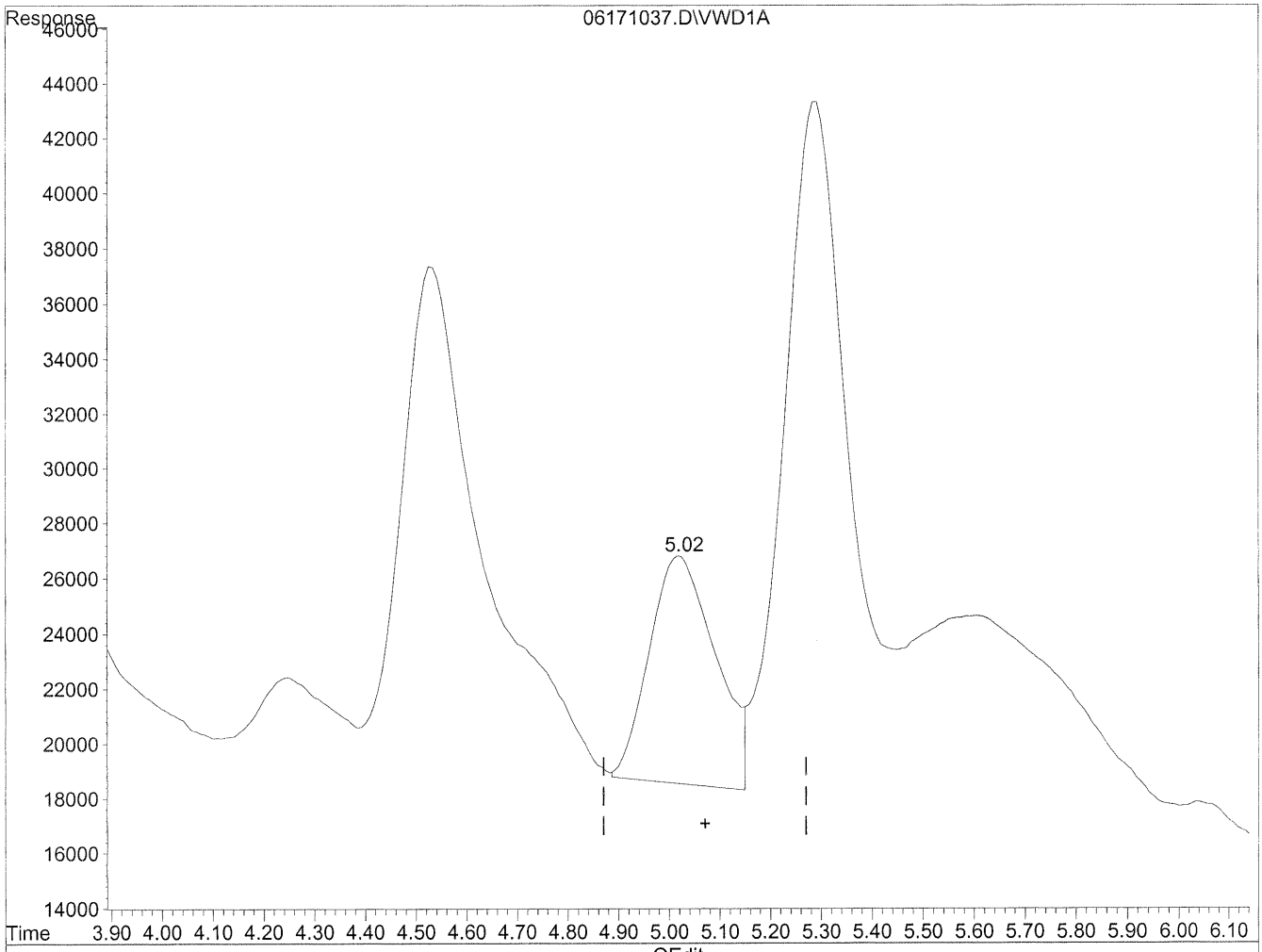
(+) = Expected Retention Time

06171037.D TO110510.M Fri Jun 18 08:52:33 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 7:56 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.02min 211.416ng/ml

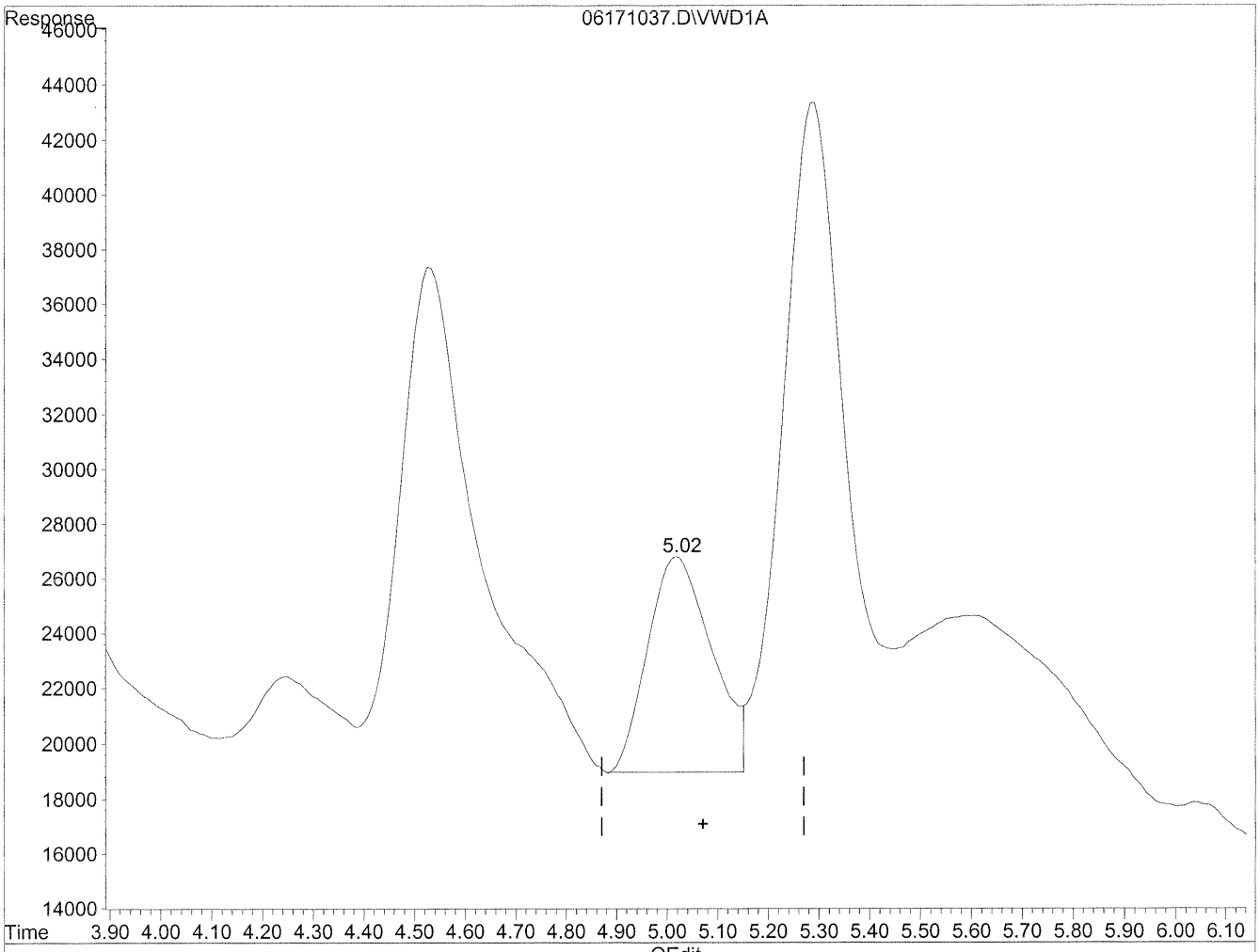
response 750041

(+) = Expected Retention Time

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 7:56 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.02min 197.188ng/ml m

response 699566

6/18/10 BC

6/21/10

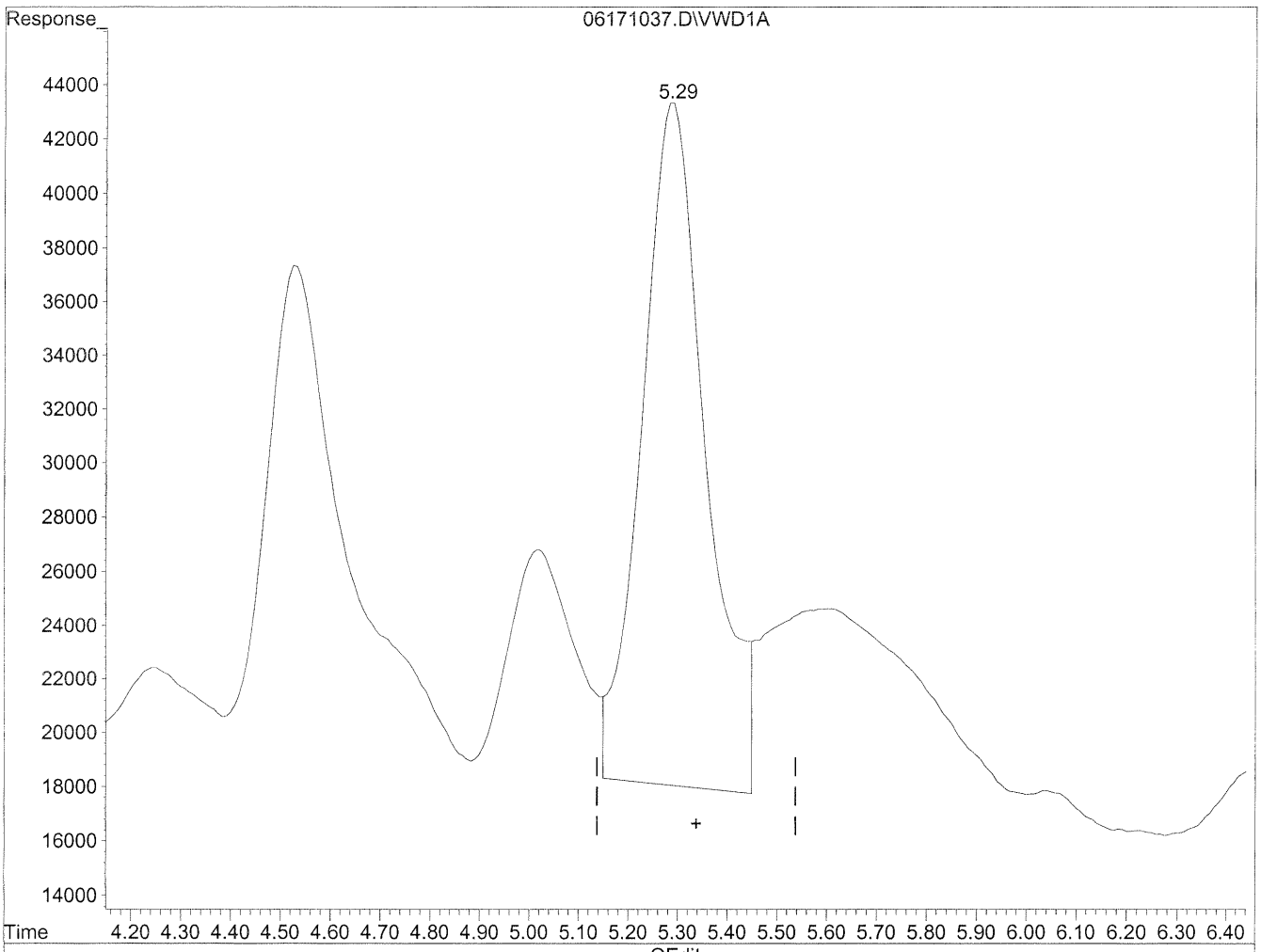
(+) = Expected Retention Time

06171037.D TO110510.M Fri Jun 18 08:52:47 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 7:56 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.29min 678.069ng/ml

response 2274661

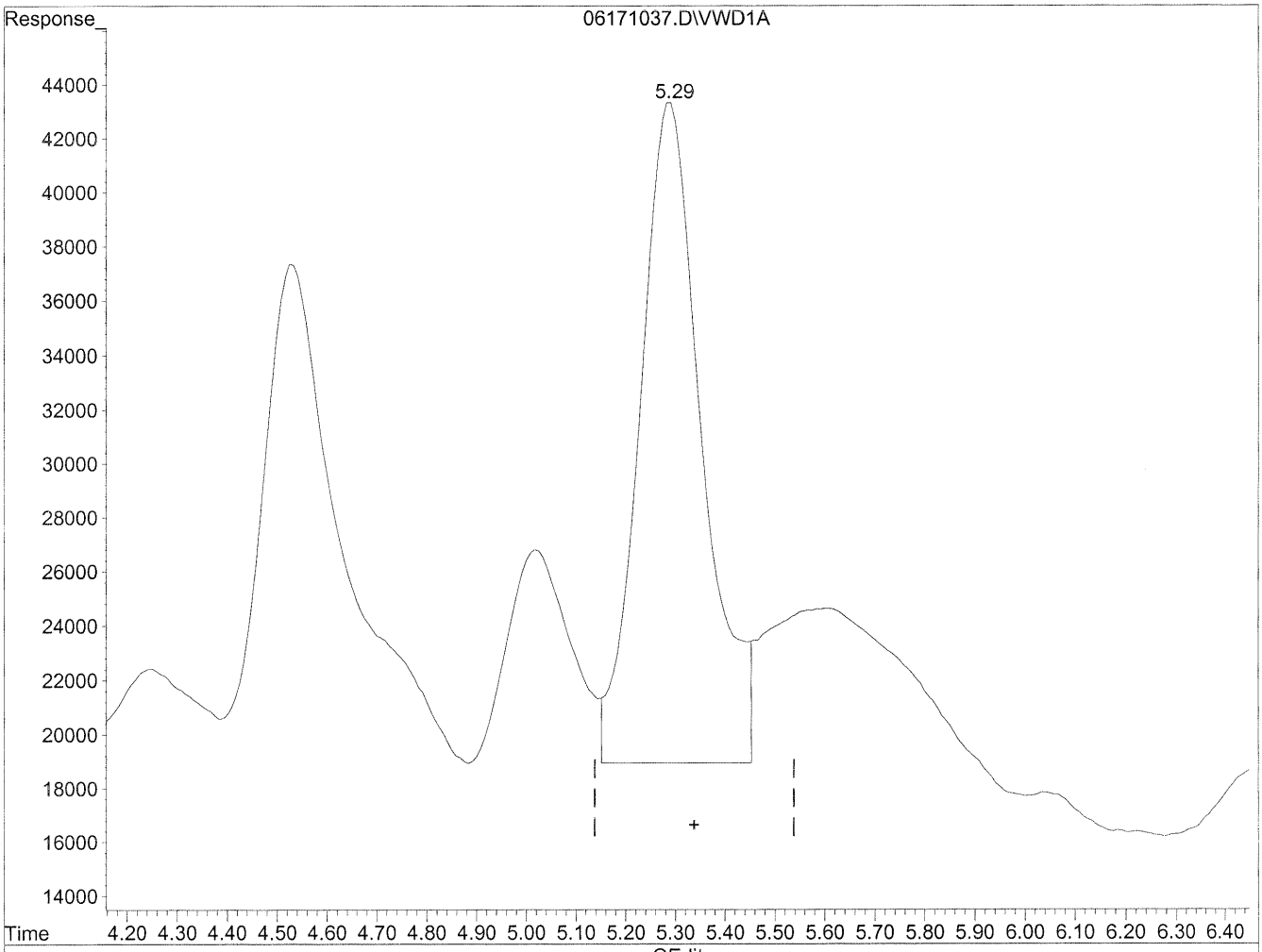
(+) = Expected Retention Time

06171037.D TO110510.M Fri Jun 18 08:52:59 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171037.D Vial: 127
Acq On : 17-Jun-2010, 15:49:29 Operator: HC/SM
Sample : P1001953-012 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:54 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



QEdit

(8) Valeraldehyde

5.29min 634.945ng/ml m

response 2129996

6/18/10 BC

6/21/10

(+) = Expected Retention Time

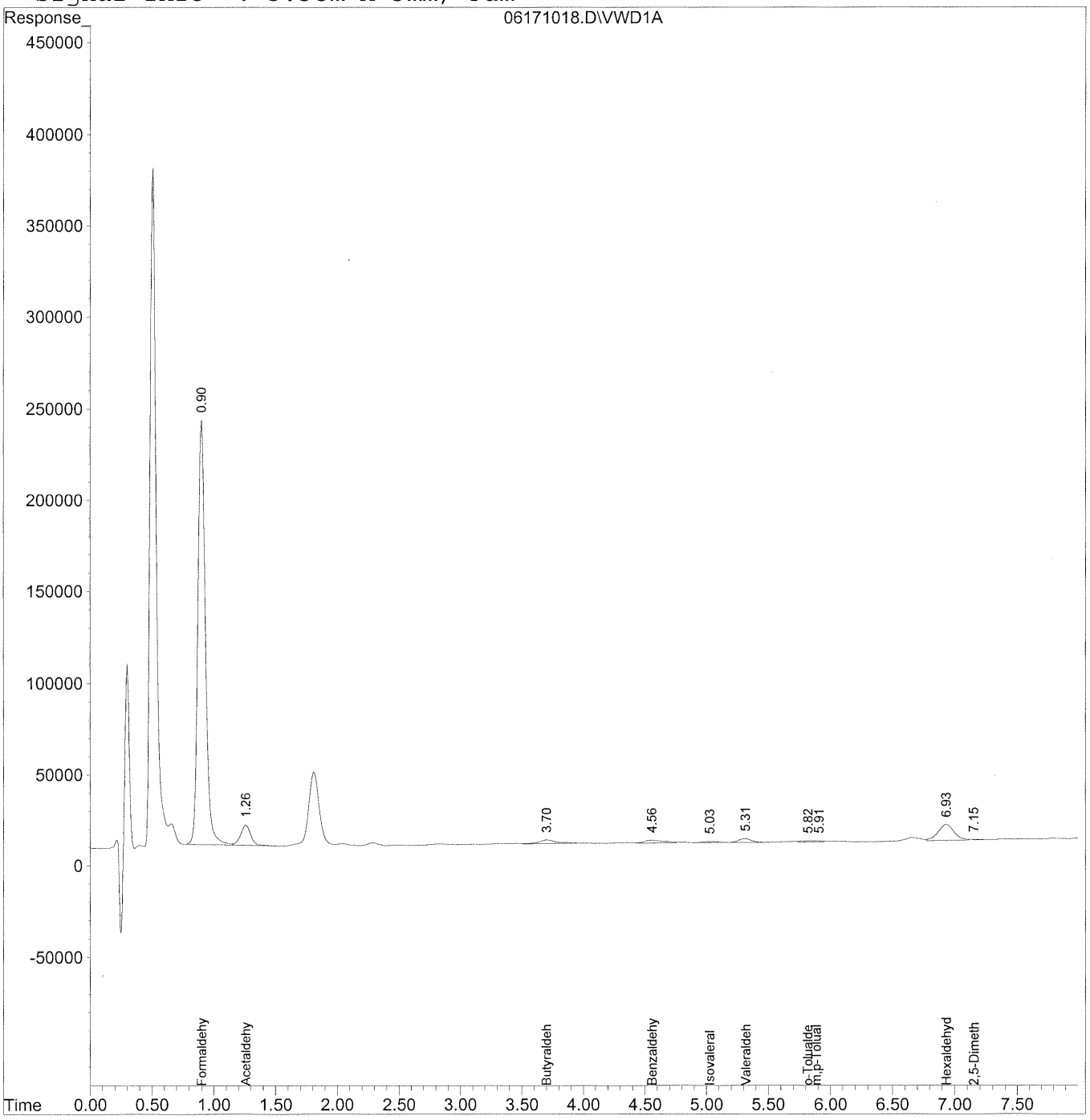
06171037.D TO110510.M Fri Jun 18 08:55:01 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171018.D Vial: 114
Acq On : 17-Jun-2010, 12:32:23 Operator: HC/SM
Sample : P1001953-012 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:23 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171018.D Vial: 114
Acq On : 17-Jun-2010, 12:32:23 Operator: HC/SM
Sample : P1001953-012 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:23 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

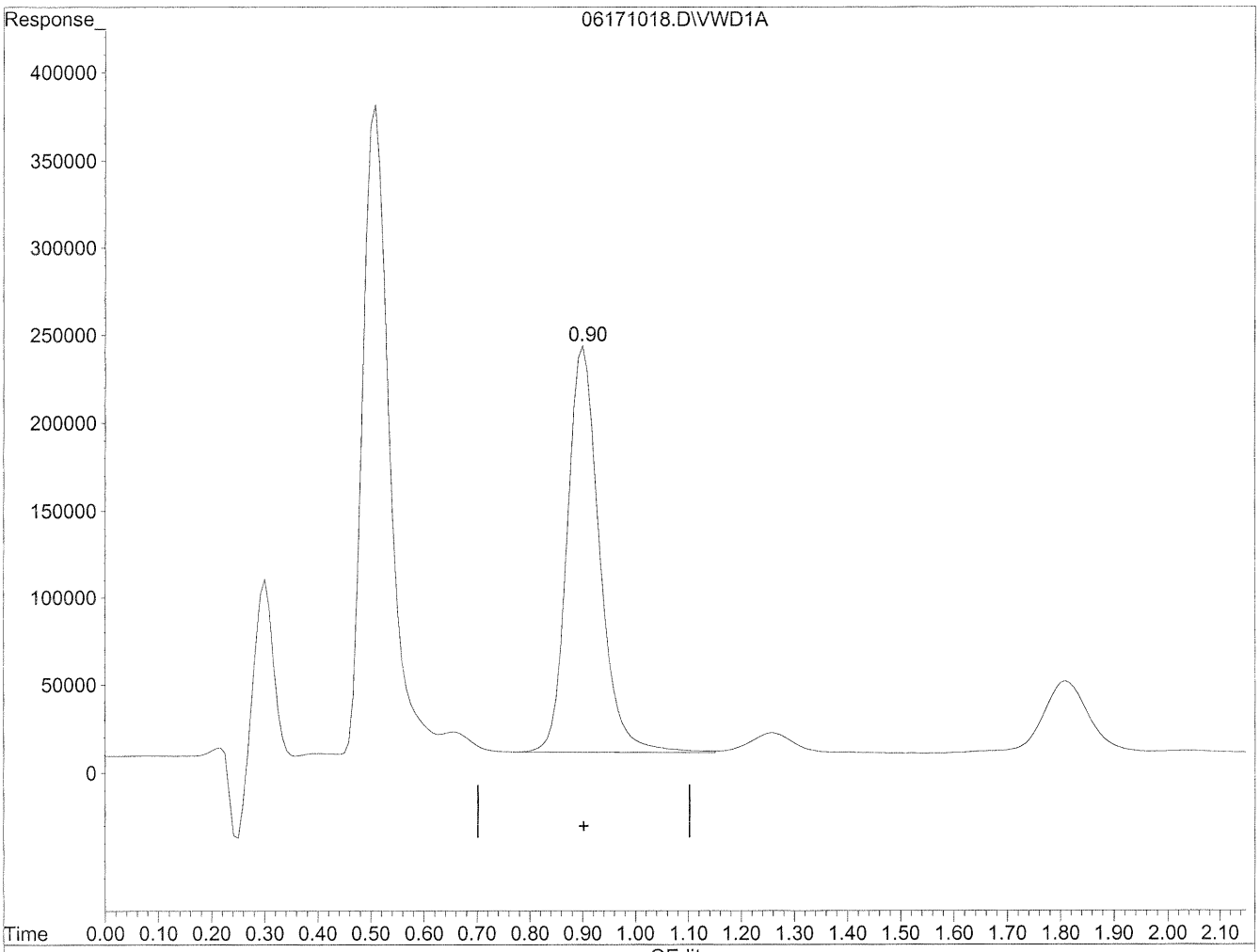
Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	9848085	1055.204	ng/ml
2)	Acetaldehyde	1.26	655307	97.295	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.70	223366	55.435	ng/ml
6)	Benzaldehyde	4.56	165459	61.129	ng/ml
7)	Isovaleraldehyde	5.03	60587	17.078	ng/ml
8)	Valeraldehyde	5.32	153516	45.763	ng/ml
9)	o-Tolualdehyde	5.82	40514	19.904	ng/ml
10)	m,p-Tolualdehyde	5.88f	31534	13.461	ng/ml
11)	Hexaldehyde	6.94	773669	269.067	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.15	15010	7.801	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171018.D Vial: 114
Acq On : 17-Jun-2010, 12:32:23 Operator: HC/SM
Sample : P1001953-012 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.90min 1055.204ng/ml

response 9848085

(+) = Expected Retention Time

06171018.D TO110510.M Fri Jun 18 08:23:45 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111049**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-013

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 19225 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**2.8**	**1.5**	0.11	**1.2**	0.086	
75-07-0	**Acetaldehyde**	**0.80**	**0.49**	0.12	**0.27**	0.069	
123-38-6	Propionaldehyde	< 0.20	ND	0.27	ND	0.11	
123-72-8	**Butyraldehyde**	**0.29**	**1.4**	0.95	**0.46**	0.32	
100-52-7	Benzaldehyde	< 0.20	ND	0.11	ND	0.026	
590-86-3	**Isovaleraldehyde**	**0.29**	**0.25**	0.17	**0.070**	0.048	
110-62-3	**Valeraldehyde**	**0.23**	**0.45**	0.39	**0.13**	0.11	
66-25-1	**n-Hexaldehyde**	**0.41**	**1.2**	0.58	**0.29**	0.14	

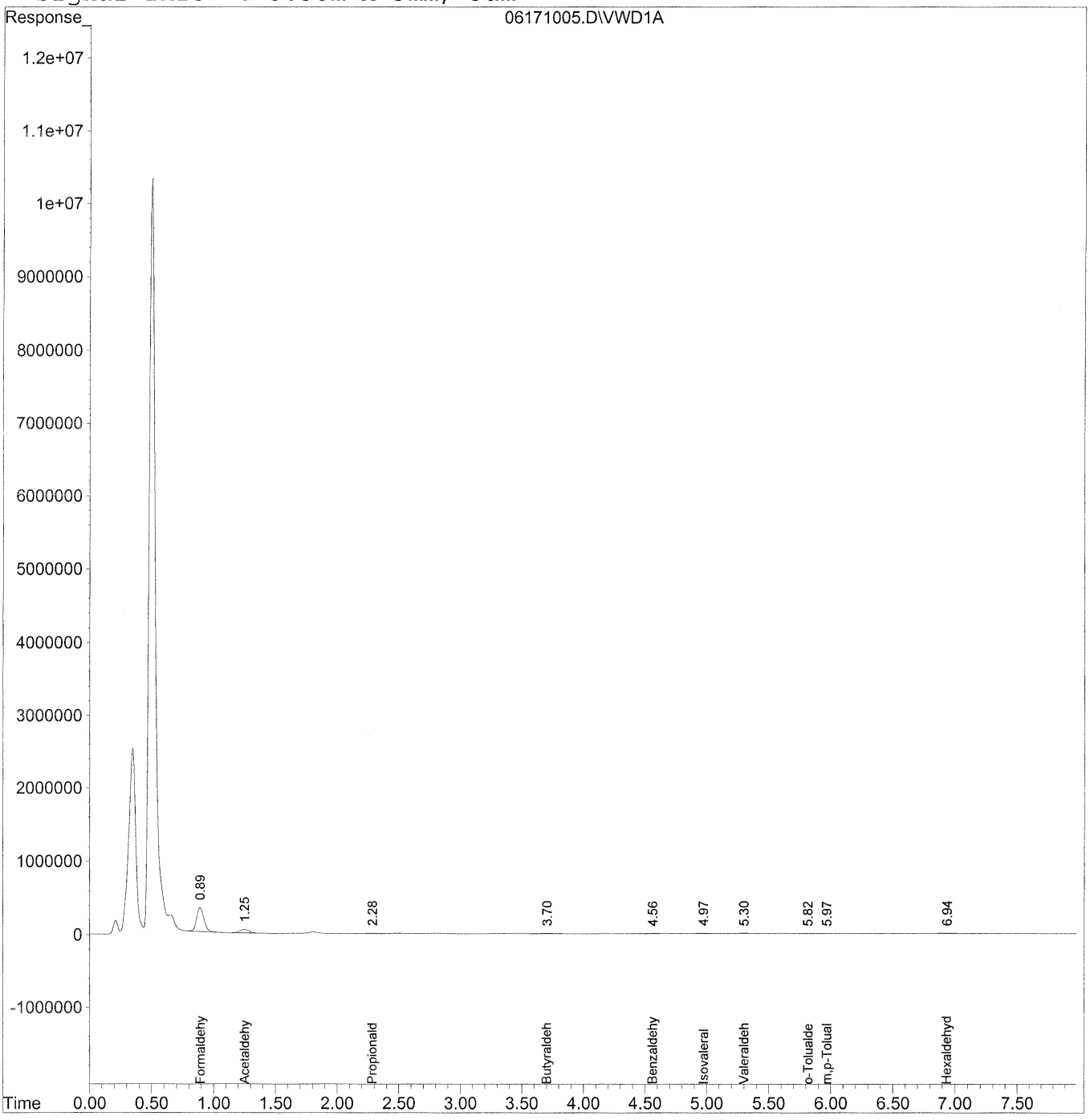
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Ro Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:31 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:31 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

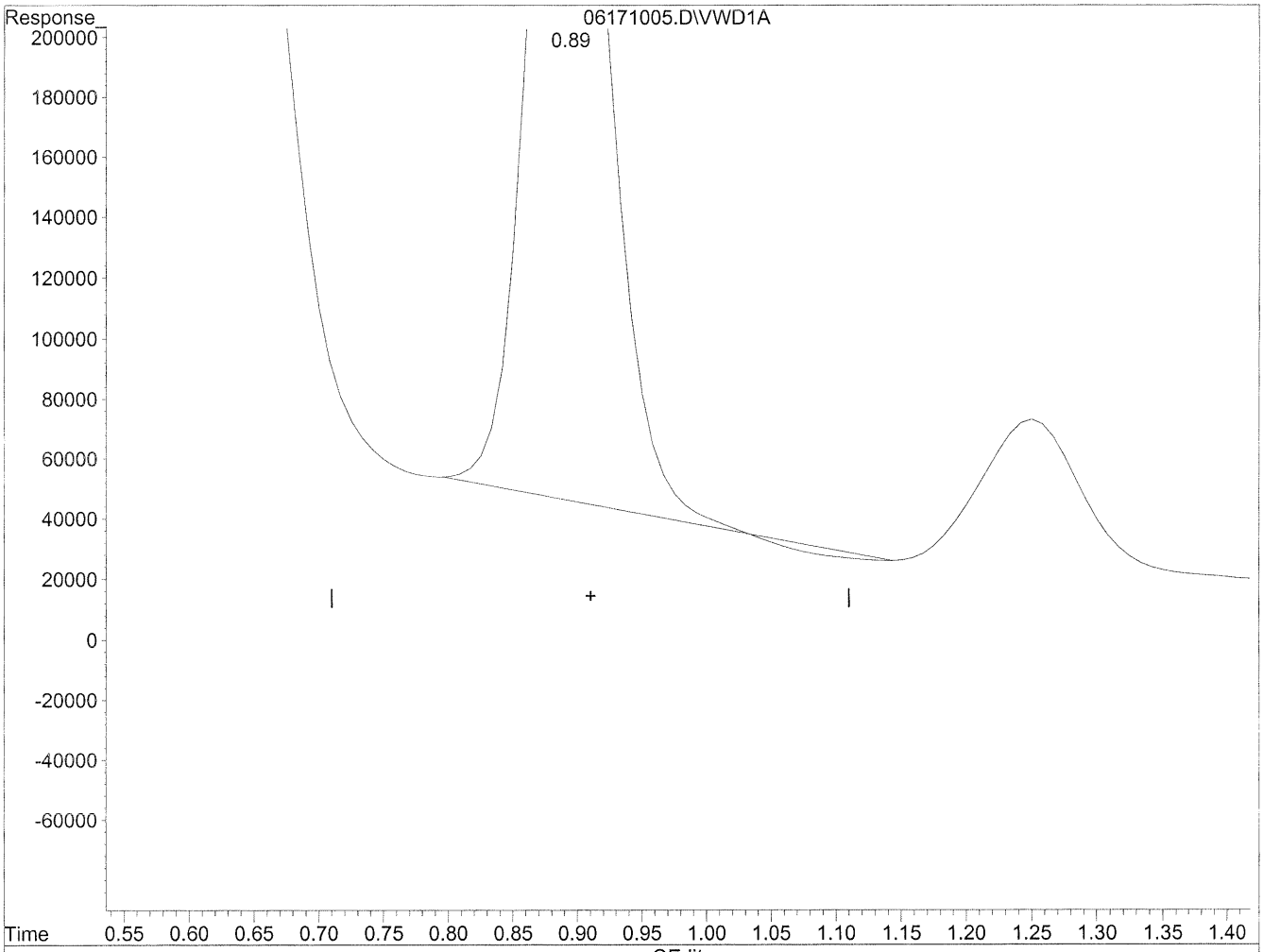
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	13227674	1417.320	ng/mlm
2)	Acetaldehyde	1.25	2677667	397.562	ng/mlm
3)	Propionaldehyde	2.29	443487	91.215	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.70	580294	144.018	ng/mlm
6)	Benzaldehyde	4.56	98445	36.371	ng/ml
7)	Isovaleraldehyde	4.97f	512679	144.510	ng/mlm
8)	Valeraldehyde	5.30	393603	117.332	ng/mlm
9)	o-Tolualdehyde	5.82	24796	12.182	ng/ml
10)	m,p-Tolualdehyde	5.97	11043	4.714	ng/ml
11)	Hexaldehyde	6.94	593376	206.365	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 1386.165ng/ml

response 12936903

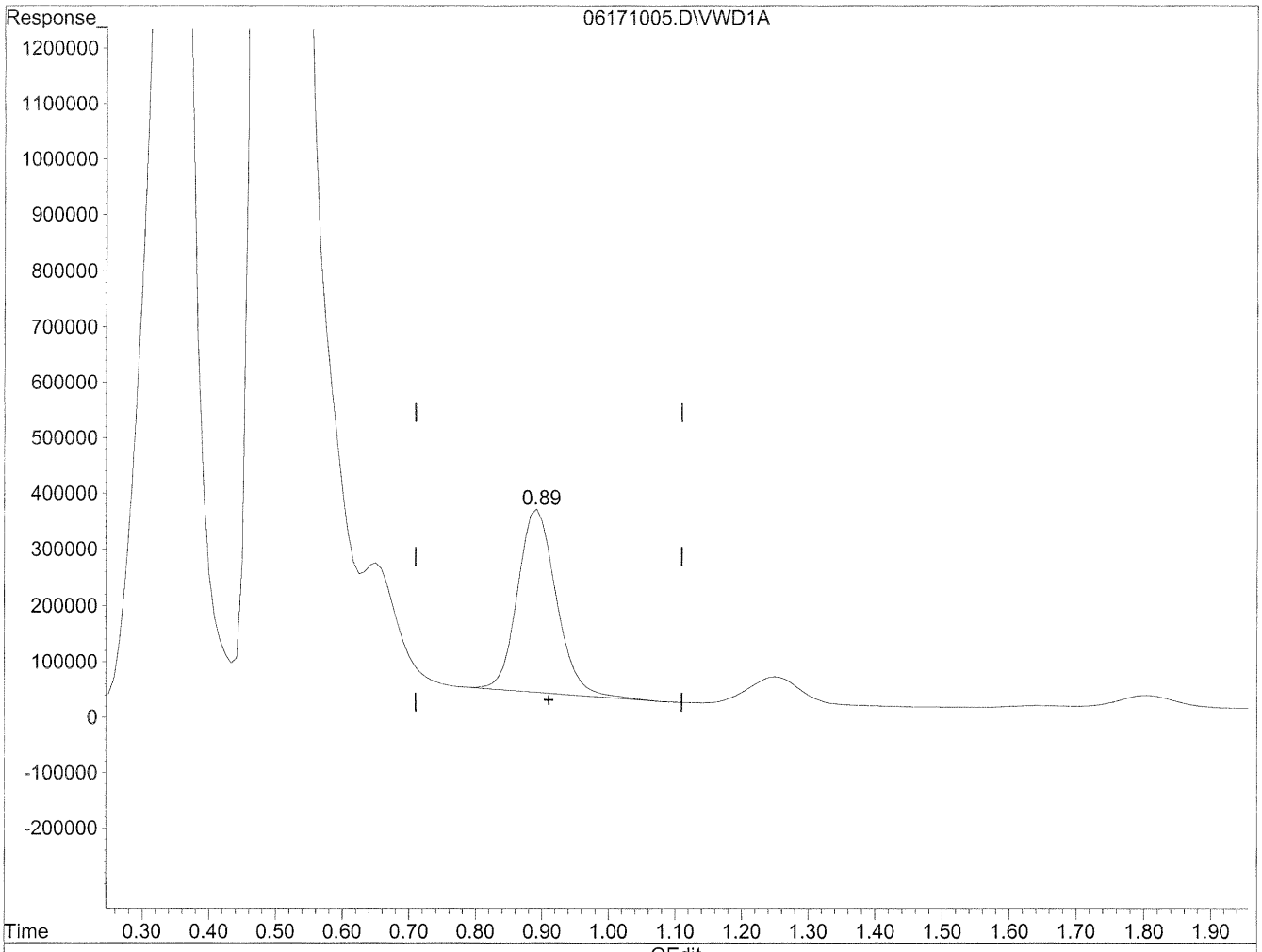
(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:29:36 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 1417.320ng/ml m

response 13227674

HC 6/18/10 IC

6/21/10

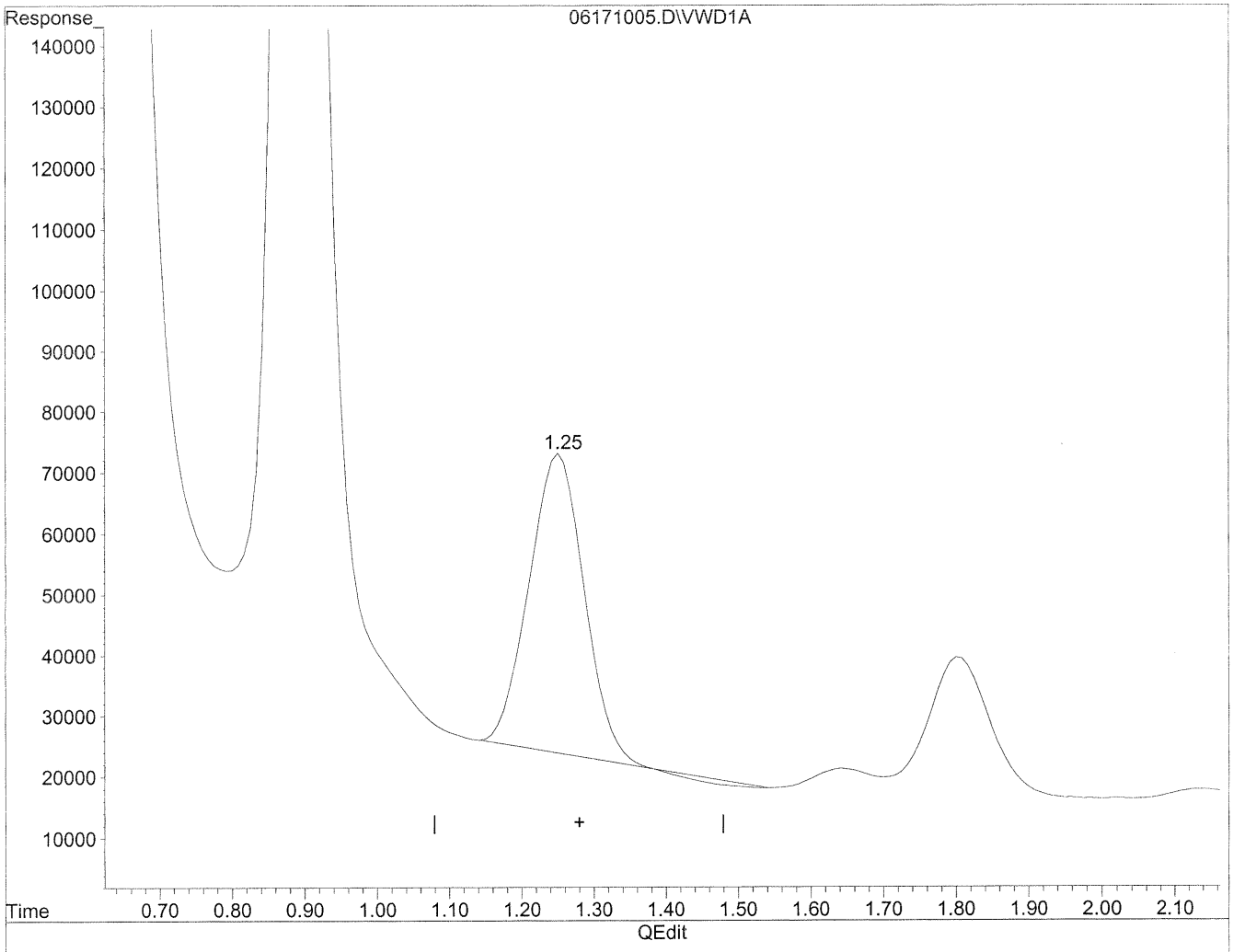
(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:29:50 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.25min 383.193ng/ml

response 2580895

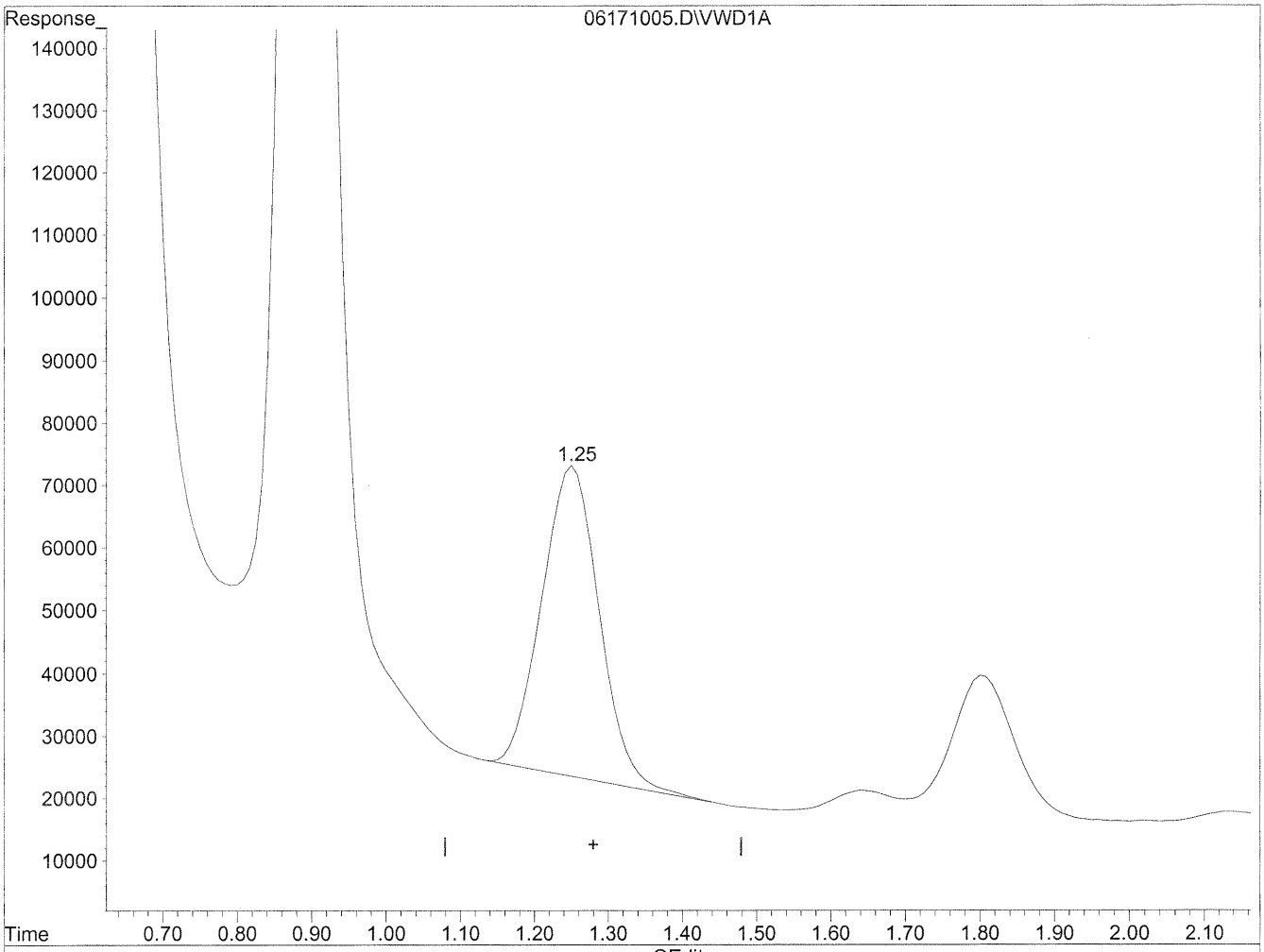
(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:29:56 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.25min 397.562ng/ml m

response 2677667

HC 6/18/10 IC MD 6/21/10

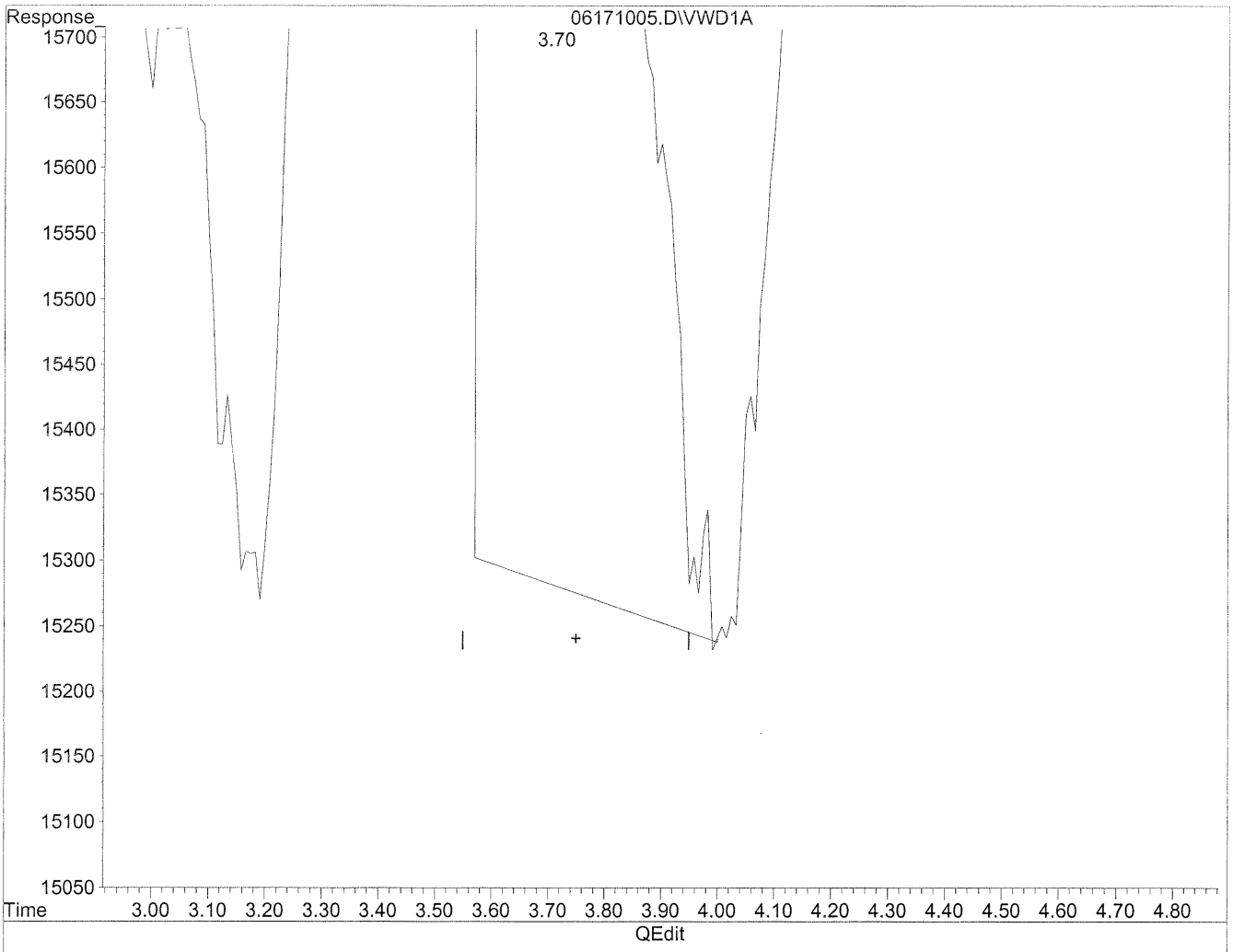
(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:30:04 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.71min 141.925ng/ml

response 571858

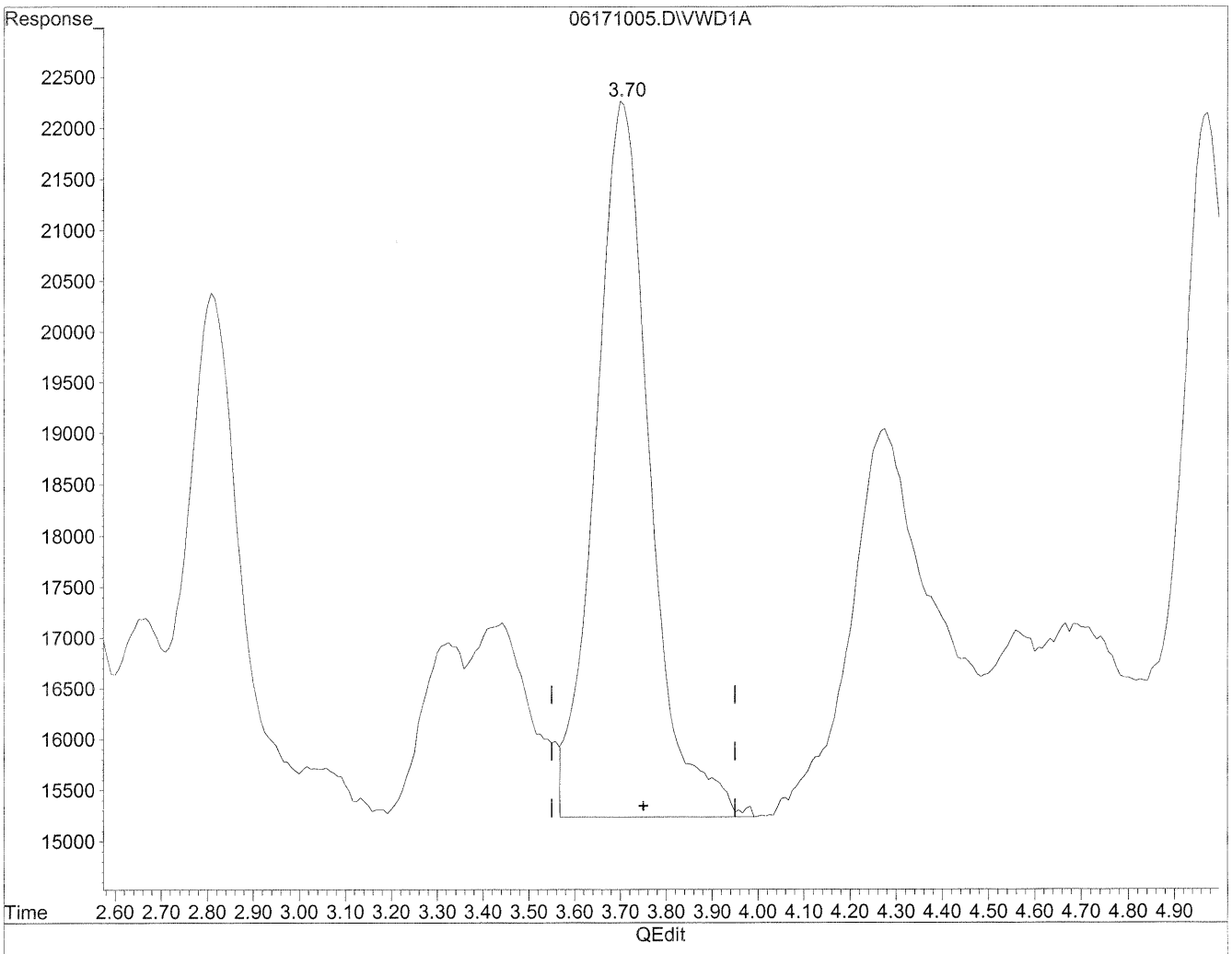
(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:30:16 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.70min 144.018ng/ml m

response 580294

HC 6/18/10
BC
6/21/10

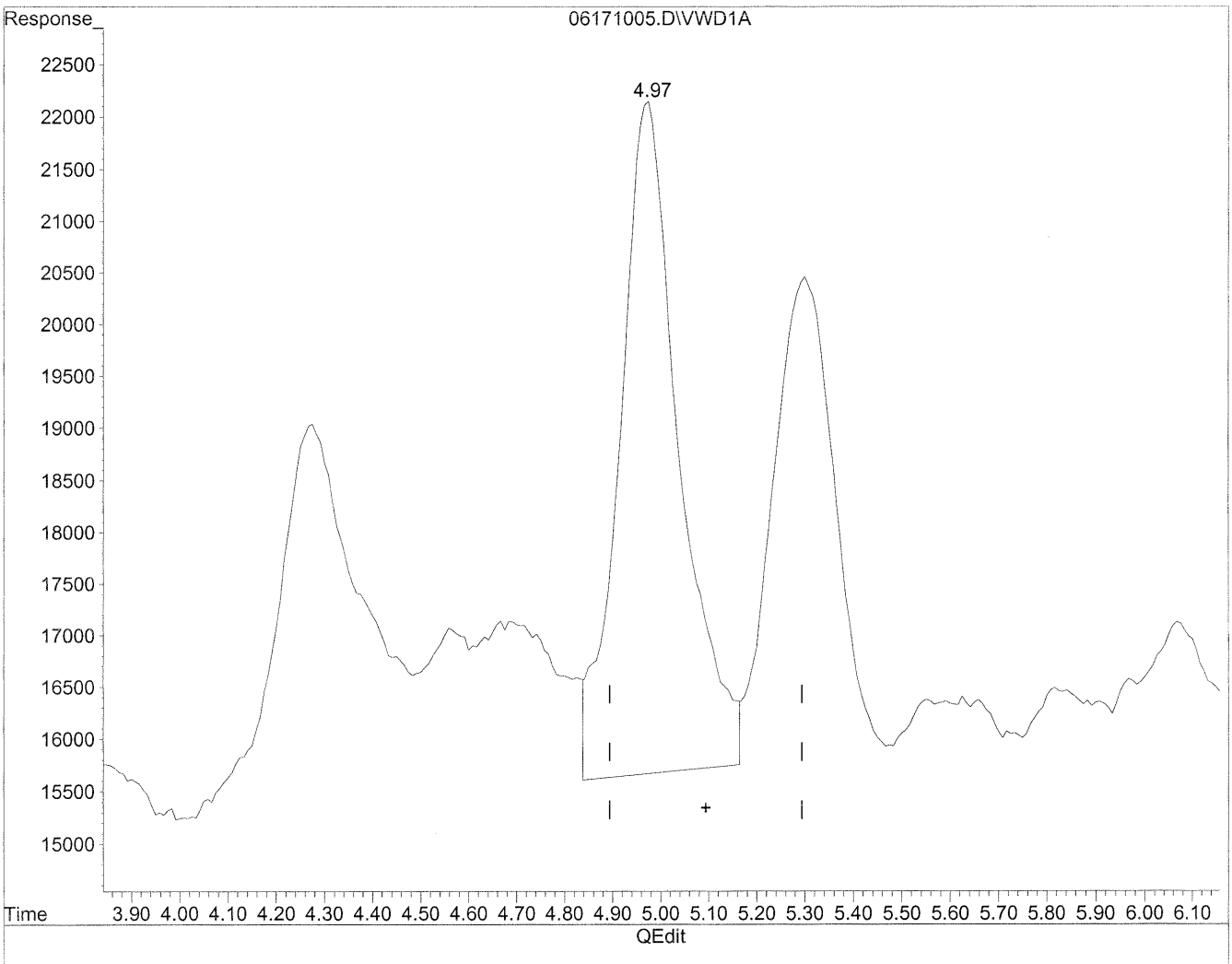
(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:30:24 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.98min 157.732ng/ml

response 559588

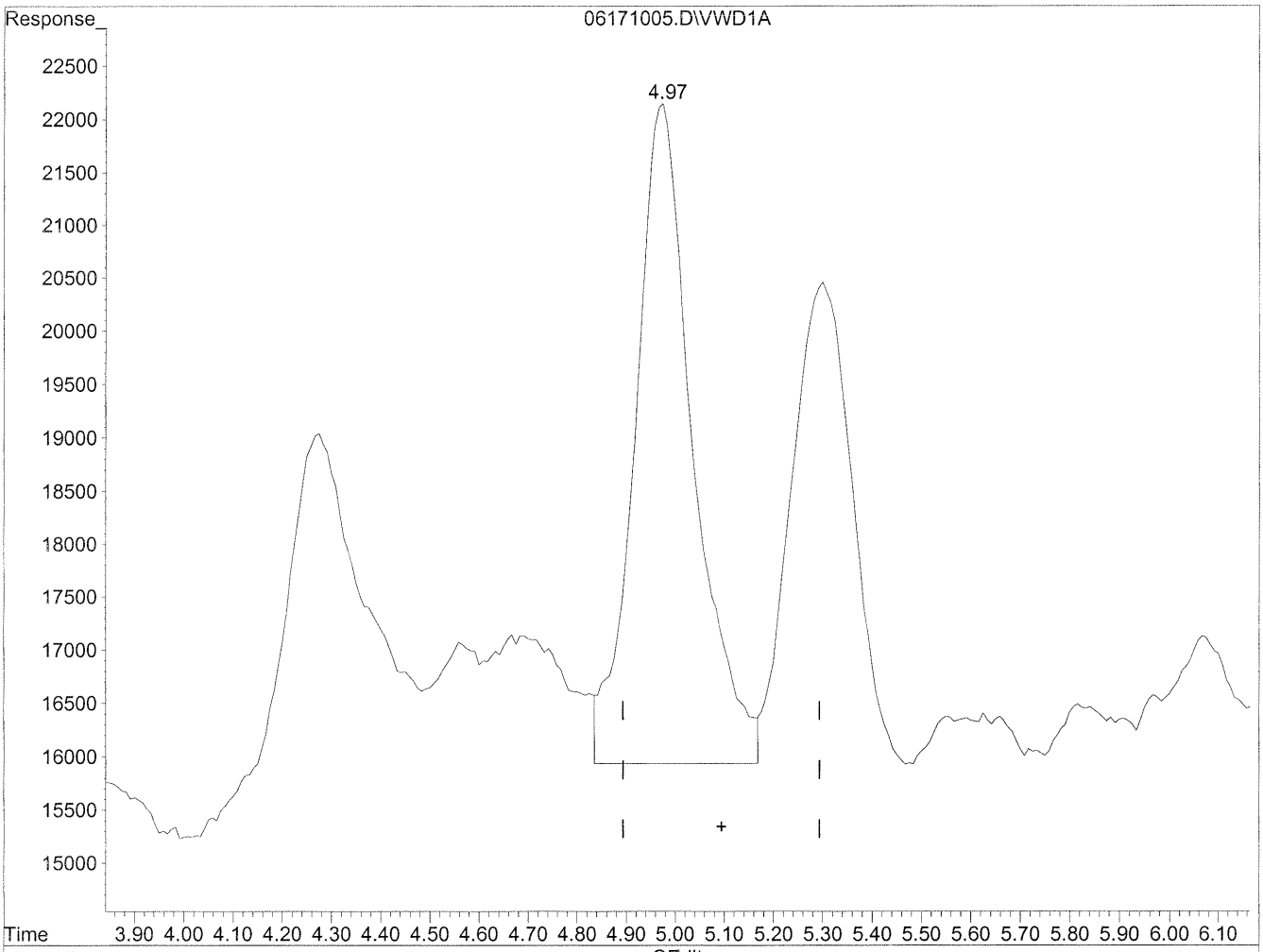
(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:30:29 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



QEdit

(7) Isovaleraldehyde

4.97min 144.510ng/ml m

response 512679

HC 6/18/10
BC
6/21/10

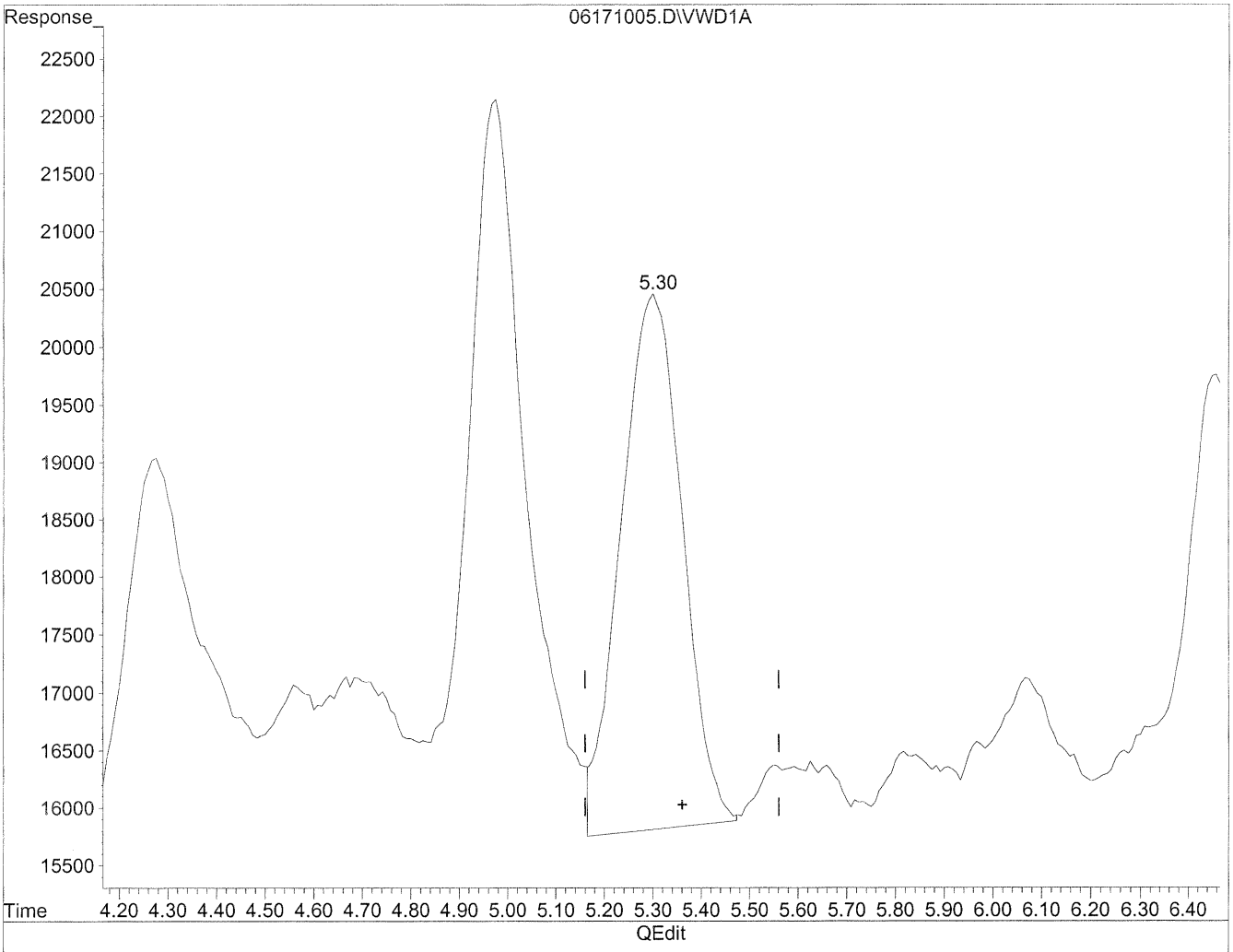
(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:31:11 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.30min 122.414ng/ml

response 410653

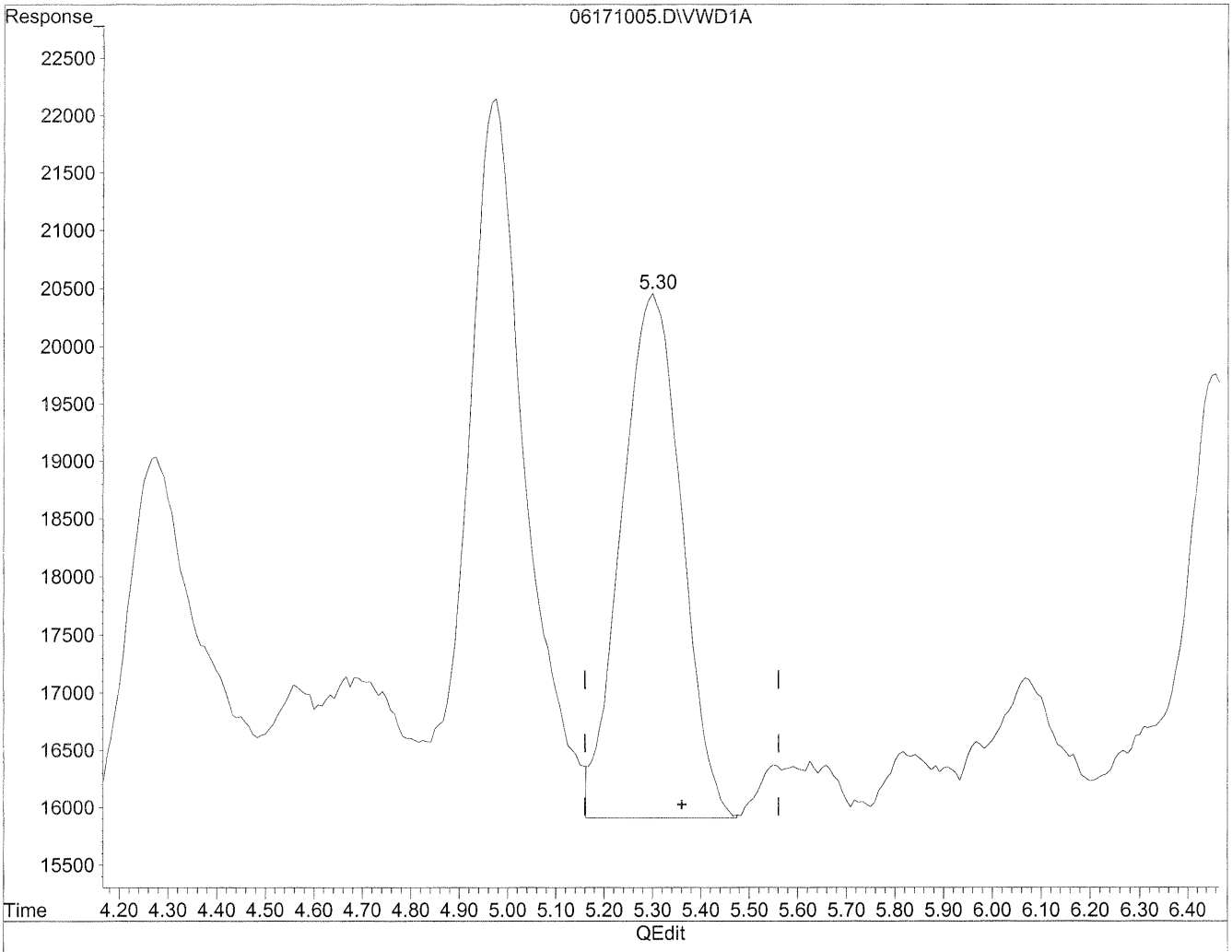
(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:31:14 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.30min 117.332ng/ml m

response 393603

HC 6/18/10 BC 6/21/10

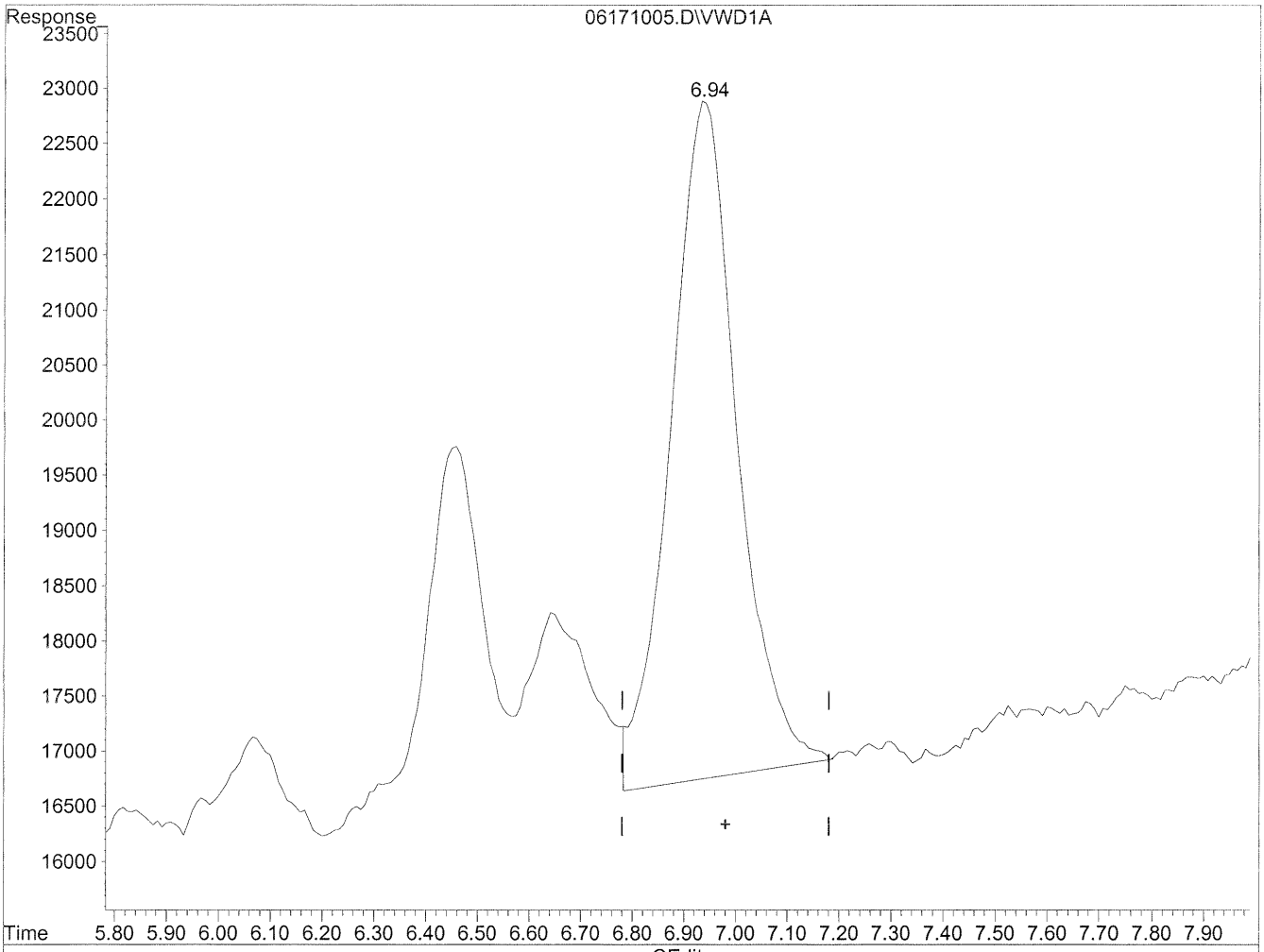
(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:31:25 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.94min 191.995ng/ml

response 552057

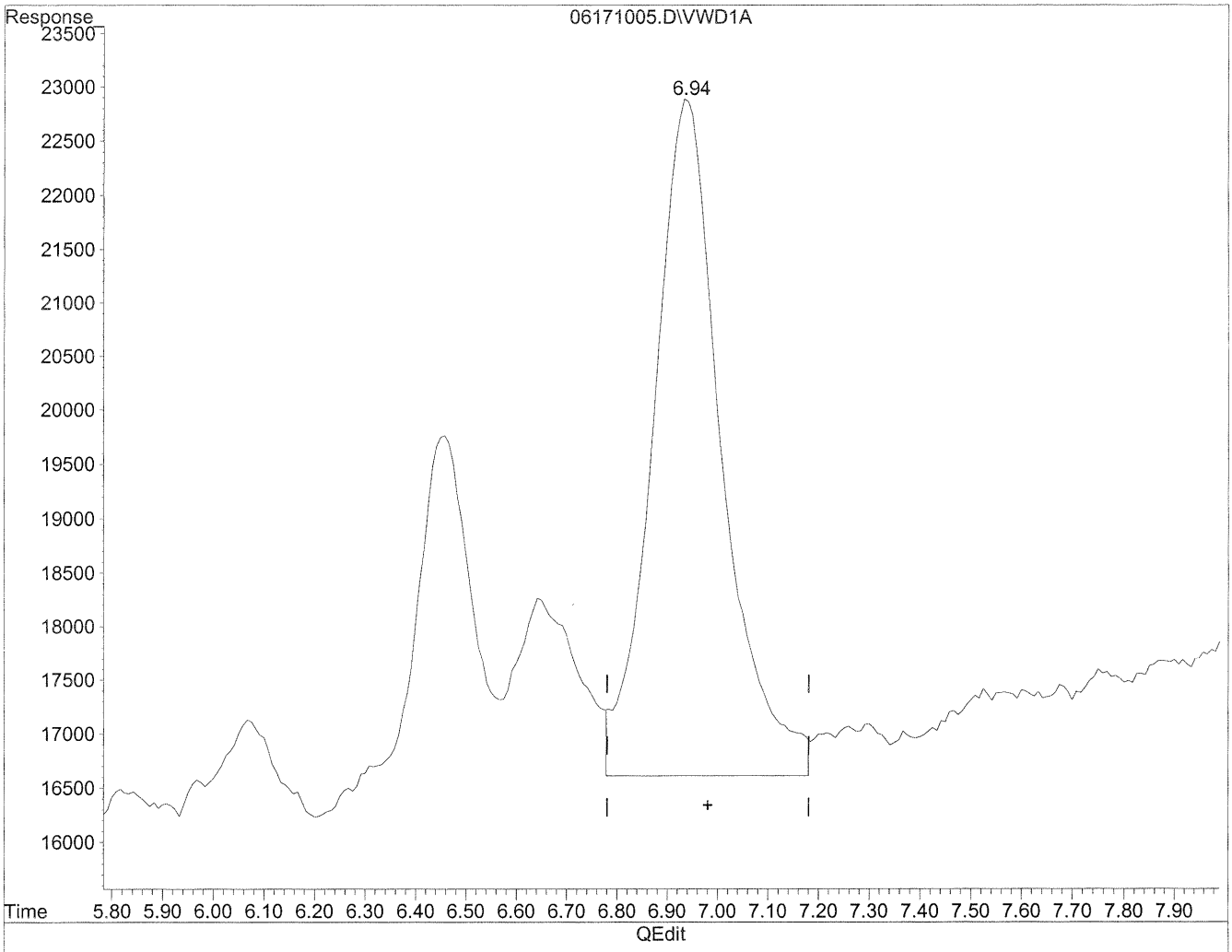
(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:31:31 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171005.D Vial: 103
Acq On : 17-Jun-2010, 10:15:57 Operator: HC/SM
Sample : P1001953-013 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.94min 206.365ng/ml m

response 593376

HC 6/18/10
BC
6/21/10

(+) = Expected Retention Time

06171005.D TO110510.M Thu Jun 17 16:31:41 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111050**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-014

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/18/10
Desorption Volume: 2.0 ml
Sampling Time: NA Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**0.31**	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 0.20	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 0.20	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 0.20	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 0.20	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 0.20	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 0.20	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 0.20	NA	NA	NA	NA	

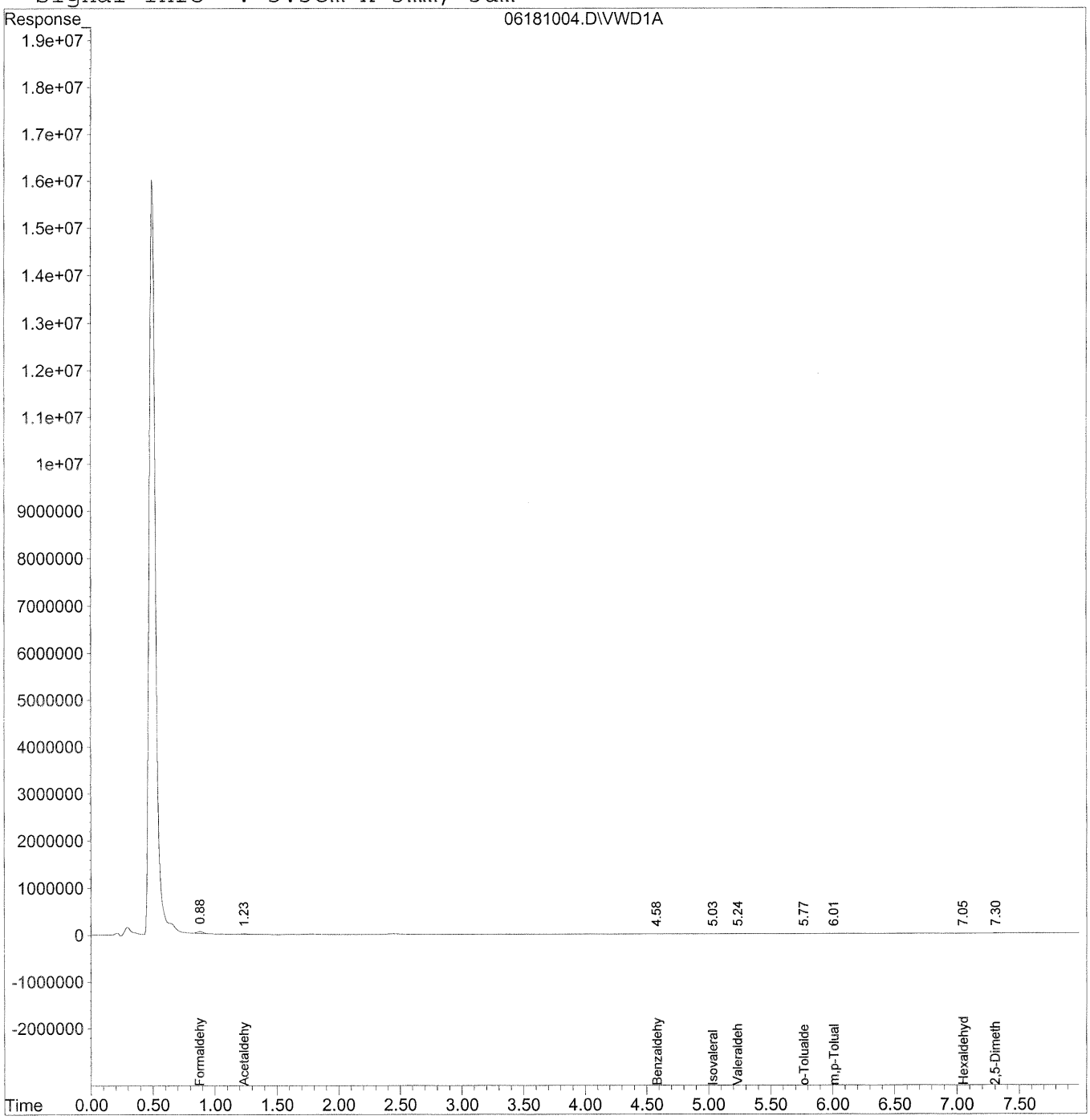
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: _____ Date: 6/24/10

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181004.D Vial: 101
Acq On : 18-Jun-2010, 09:38:43 Operator: HC/SM
Sample : P1001953-014 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:17 2010 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181004.D Vial: 101
Acq On : 18-Jun-2010, 09:38:43 Operator: HC/SM
Sample : P1001953-014 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:17 2010 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

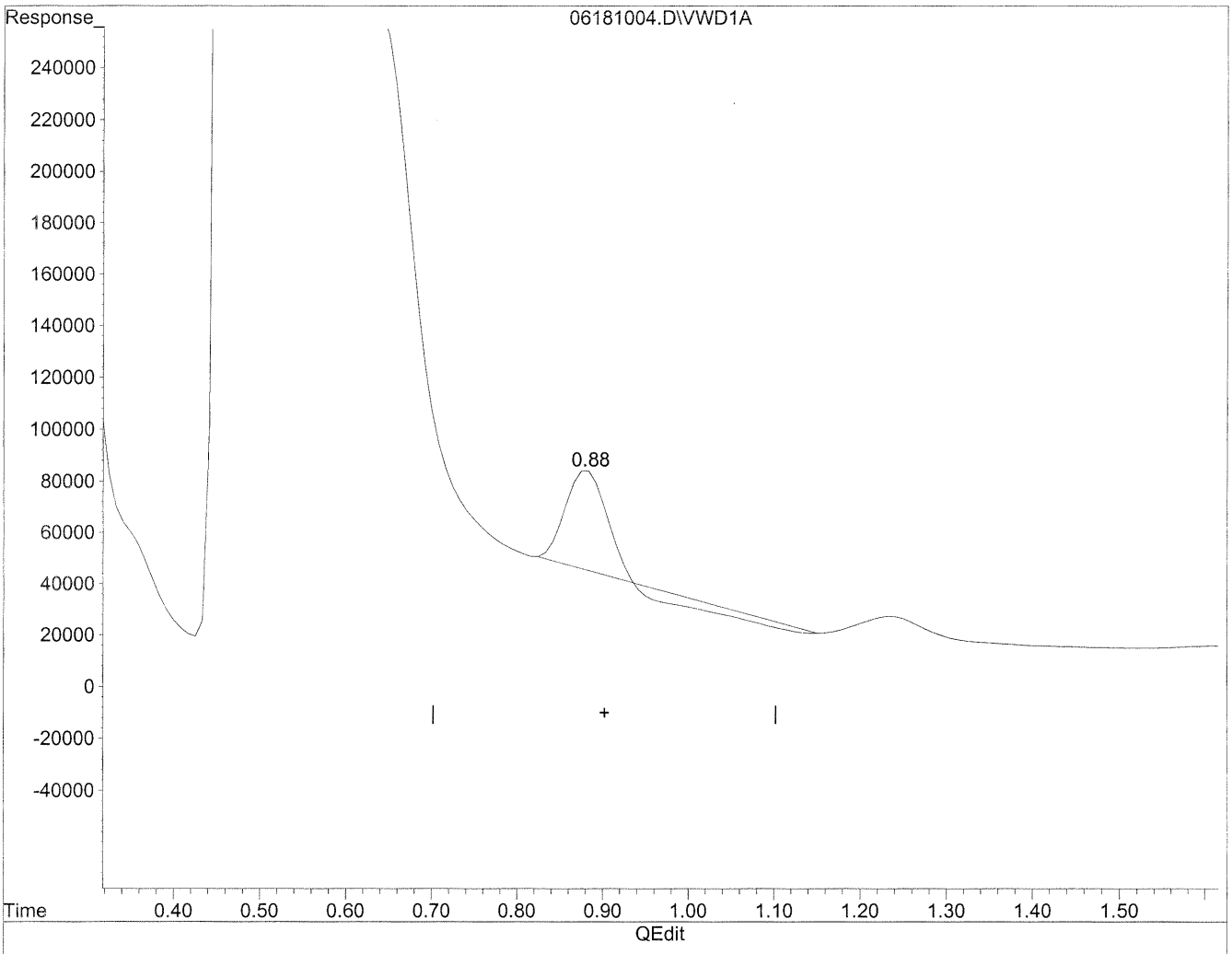
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	1457186	156.135	ng/mlm
2)	Acetaldehyde	1.23	413507	61.395	ng/mlm
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	4.59	61659	22.780	ng/ml
7)	Isovaleraldehyde	5.04	7486	2.110	ng/ml
8)	Valeraldehyde	5.24	42096	12.549	ng/ml
9)	o-Tolualdehyde	5.77	11561	5.680	ng/ml
10)	m,p-Tolualdehyde	6.01	72535	30.963	ng/ml
11)	Hexaldehyde	7.05	33644	11.701	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.31f	7294	3.791	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181004.D Vial: 101
Acq On : 18-Jun-2010, 09:38:43 Operator: HC/SM
Sample : P1001953-014 Re Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:04 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.88min 108.301ng/ml

response 1010757

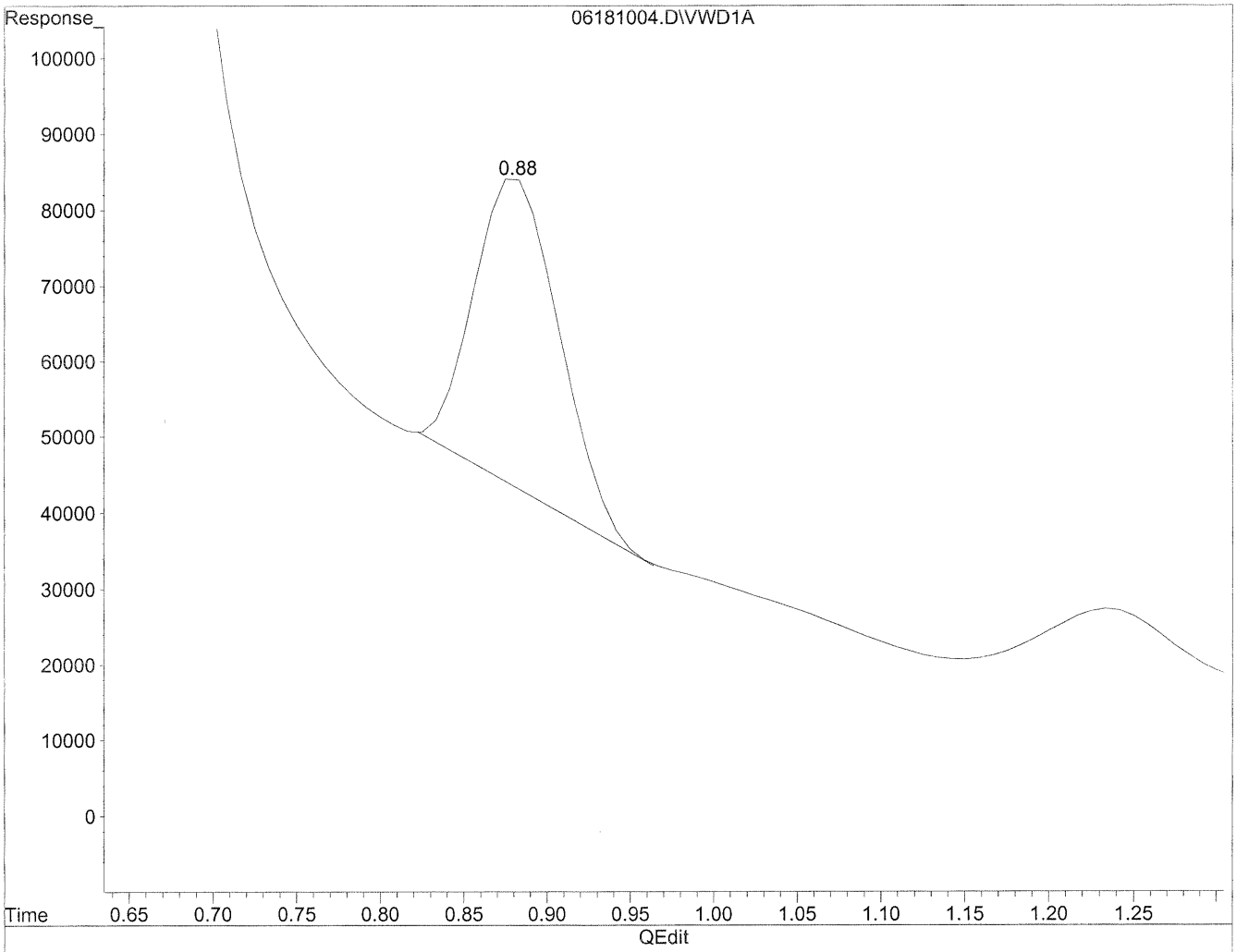
(+) = Expected Retention Time

06181004.D TO110510.M Fri Jun 18 10:16:30 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181004.D Vial: 101
Acq On : 18-Jun-2010, 09:38:43 Operator: HC/SM
Sample : P1001953-014 Re Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:04 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.88min 156.135ng/ml m

response 1457186

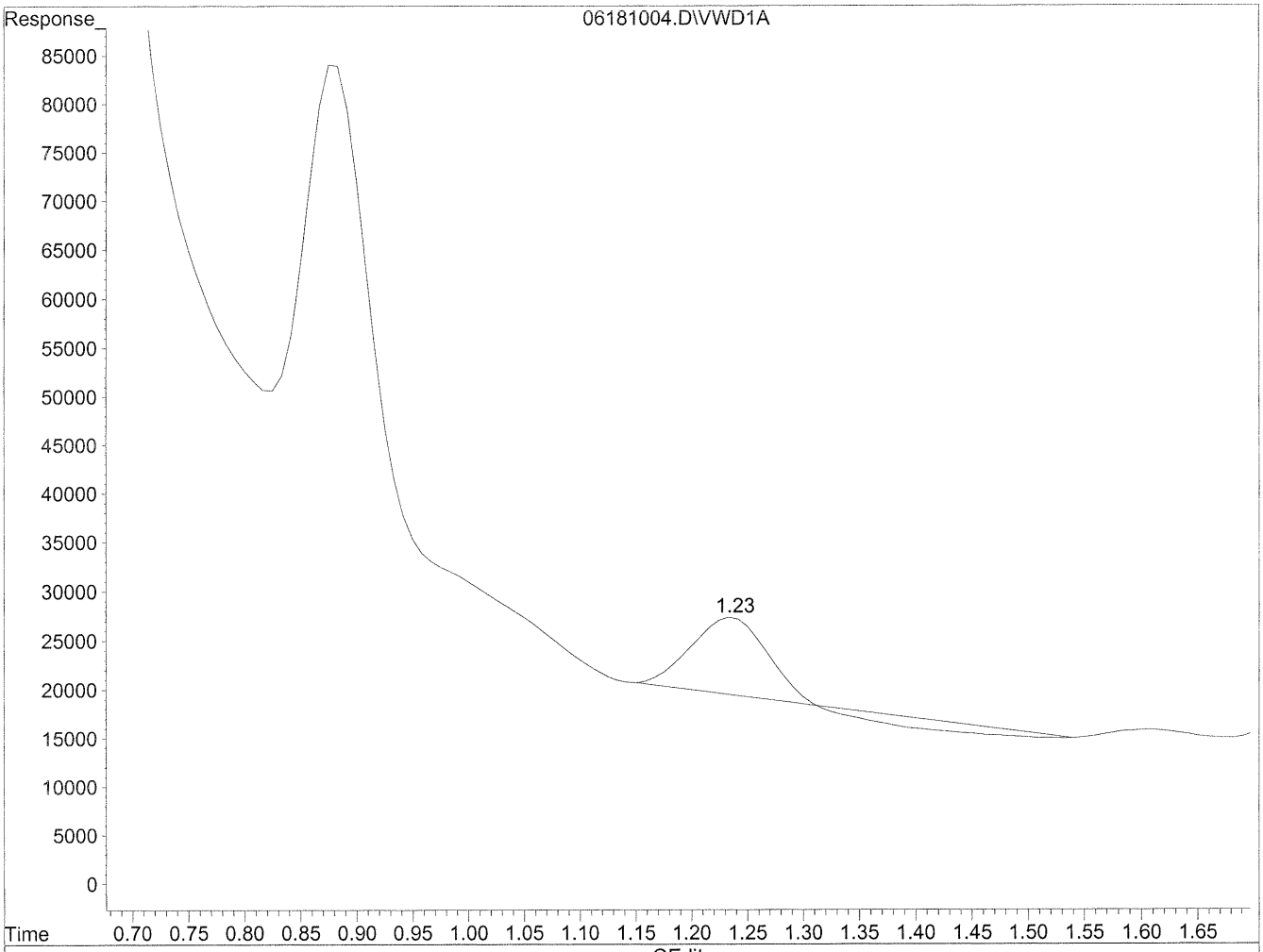
HC 6/15/10
IC
AW 6/21/10

(+) = Expected Retention Time
06181004.D TO110510.M Fri Jun 18 10:16:50 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181004.D Vial: 101
Acq On : 18-Jun-2010, 09:38:43 Operator: HC/SM
Sample : P1001953-014 Re Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:04 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.24min 43.002ng/ml

response 289629

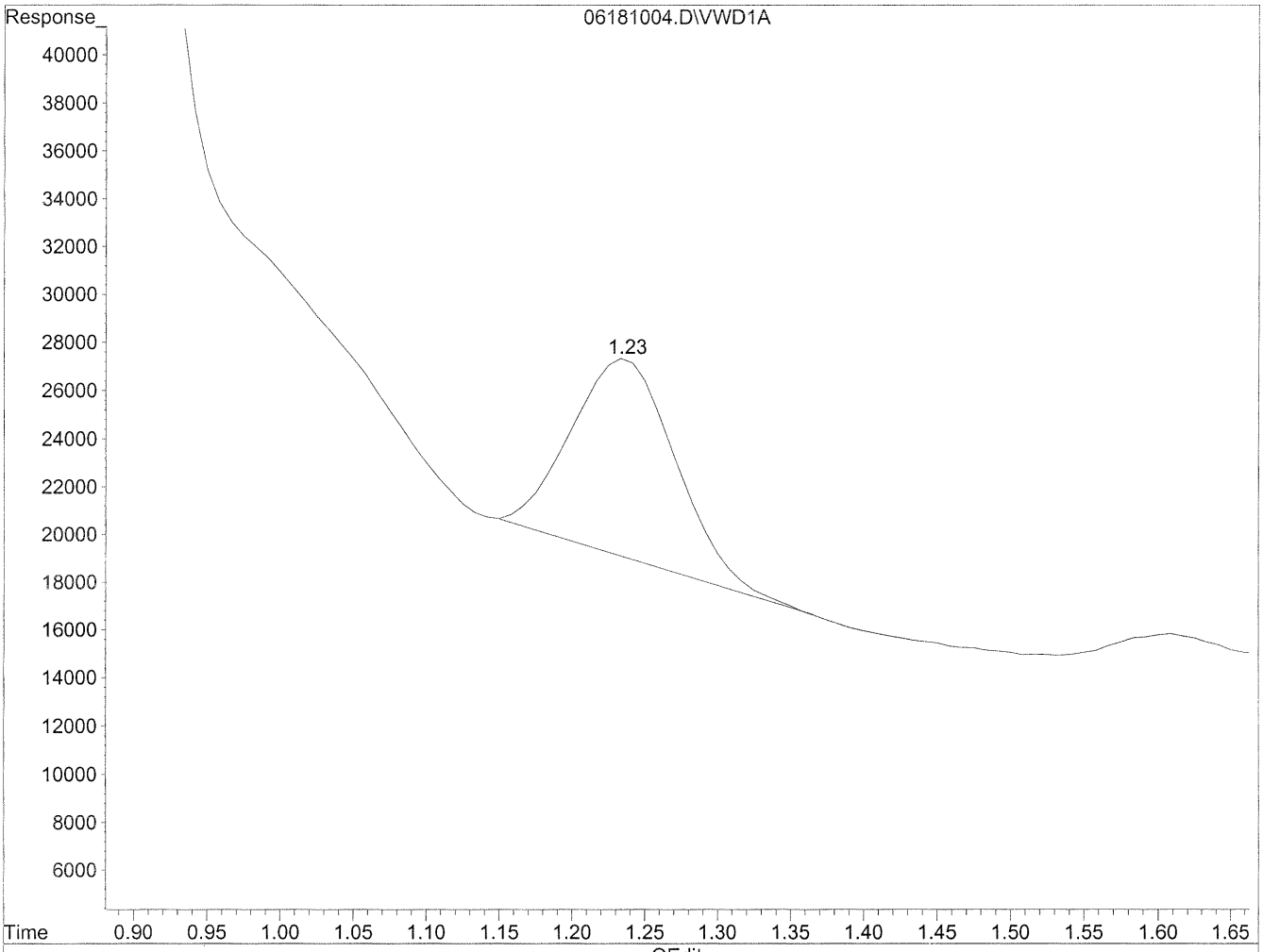
(+) = Expected Retention Time

06181004.D TO110510.M Fri Jun 18 10:17:02 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181004.D Vial: 101
Acq On : 18-Jun-2010, 09:38:43 Operator: HC/SM
Sample : P1001953-014 Re Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:04 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.23min 61.395ng/ml m

response 413507

HC 6/18/10 IC

P 6/21/10

(+) = Expected Retention Time

06181004.D TO110510.M Fri Jun 18 10:17:22 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **110986**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-015

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 20176 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**52**	**26**	0.10	**21**	0.082	
75-07-0	**Acetaldehyde**	**6.0**	**3.5**	0.12	**2.0**	0.066	
123-38-6	**Propionaldehyde**	**1.8**	**2.2**	0.25	**0.94**	0.11	
123-72-8	**Butyraldehyde**	**2.0**	**9.0**	0.90	**3.1**	0.31	
100-52-7	**Benzaldehyde**	**3.6**	**1.9**	0.11	**0.44**	0.025	
590-86-3	**Isovaleraldehyde**	**0.81**	**0.66**	0.16	**0.19**	0.046	
110-62-3	**Valeraldehyde**	**2.5**	**4.6**	0.37	**1.3**	0.10	
66-25-1	**n-Hexaldehyde**	**8.8**	**24**	0.55	**5.9**	0.13	

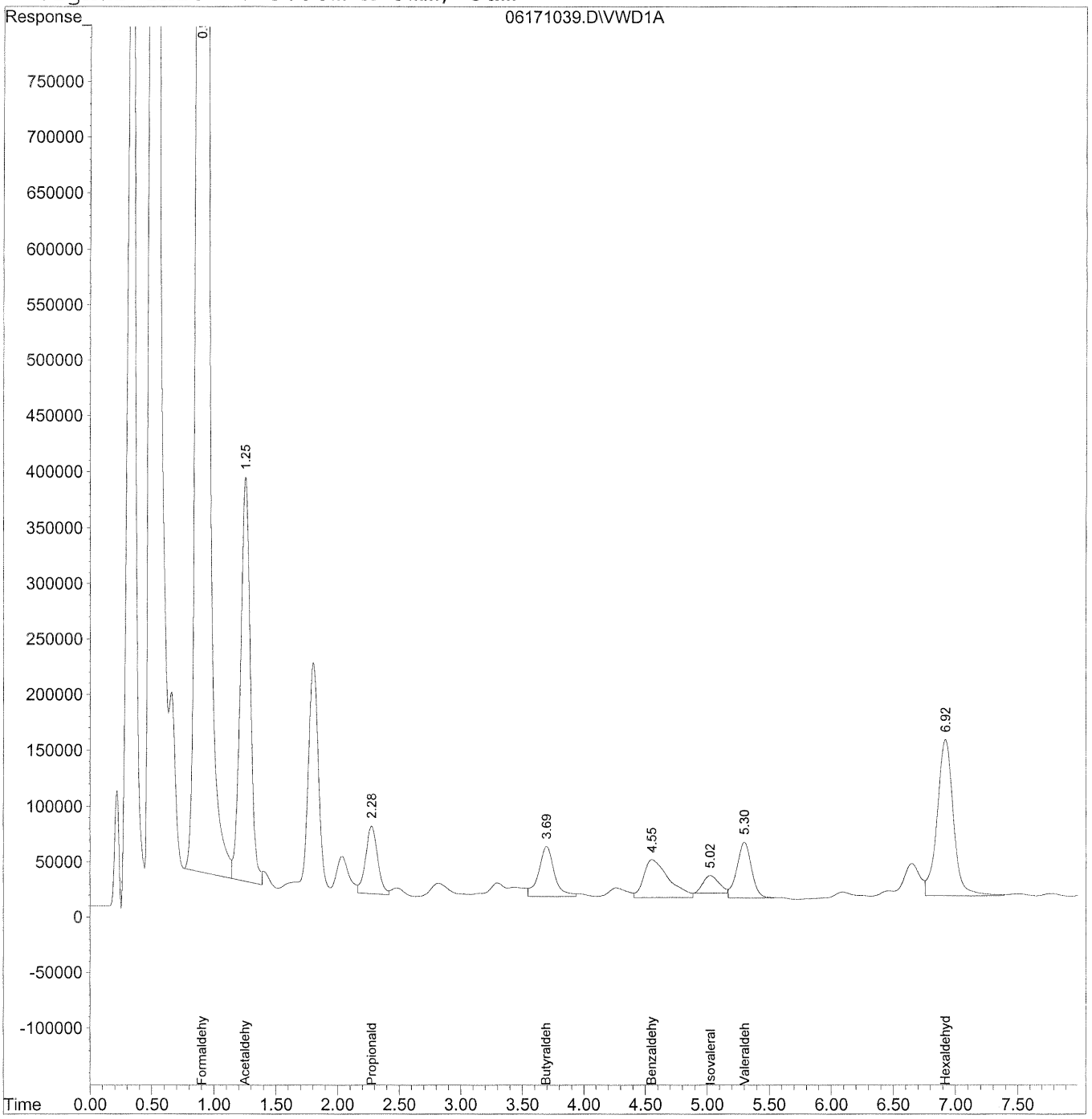
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: RS Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171039.D Vial: 129
Acq On : 17-Jun-2010, 16:10 Operator: HC/SM
Sample : P1001953-015 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:21 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171039.D Vial: 129
Acq On : 17-Jun-2010, 16:10 Operator: HC/SM
Sample : P1001953-015 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:21 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

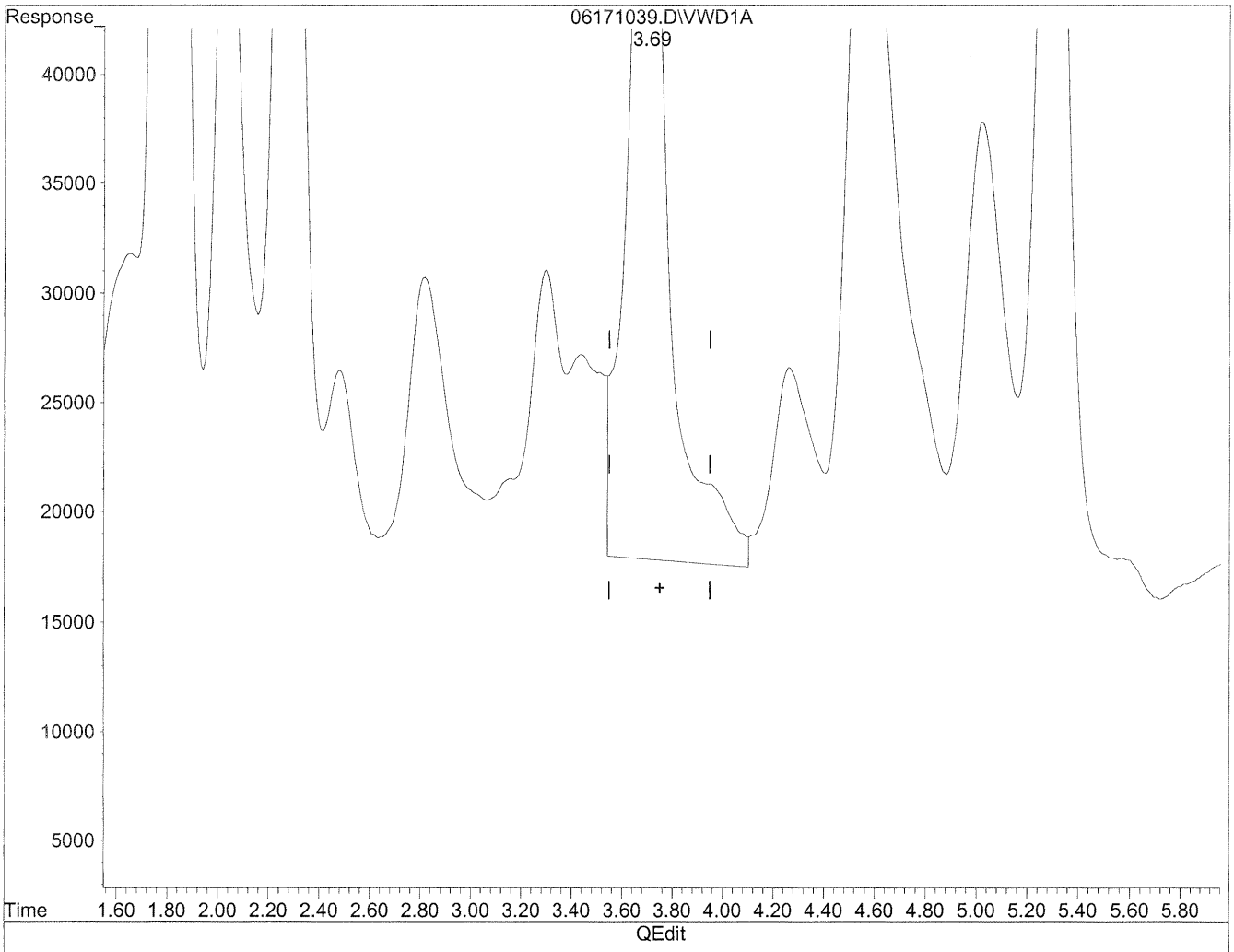
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	245301436	~~26283~~.589	ng/ml
2)	Acetaldehyde	1.26	20255026	3007.326	ng/ml
3)	Propionaldehyde	2.28	4261280	876.442	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.69	4034722	1001.345	ng/mlm
6)	Benzaldehyde	4.55	4834184	1785.991	ng/mlm
7)	Isovaleraldehyde	5.02	1436520	404.915	ng/mlm
8)	Valeraldehyde	5.30	4170464	1243.202	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.92	12615383	4387.390	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171039.D Vial: 129
Acq On : 17-Jun-2010, 16:10:34 Operator: HC/SM
Sample : P1001953-015 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.70min 1125.039ng/ml

response 4533126

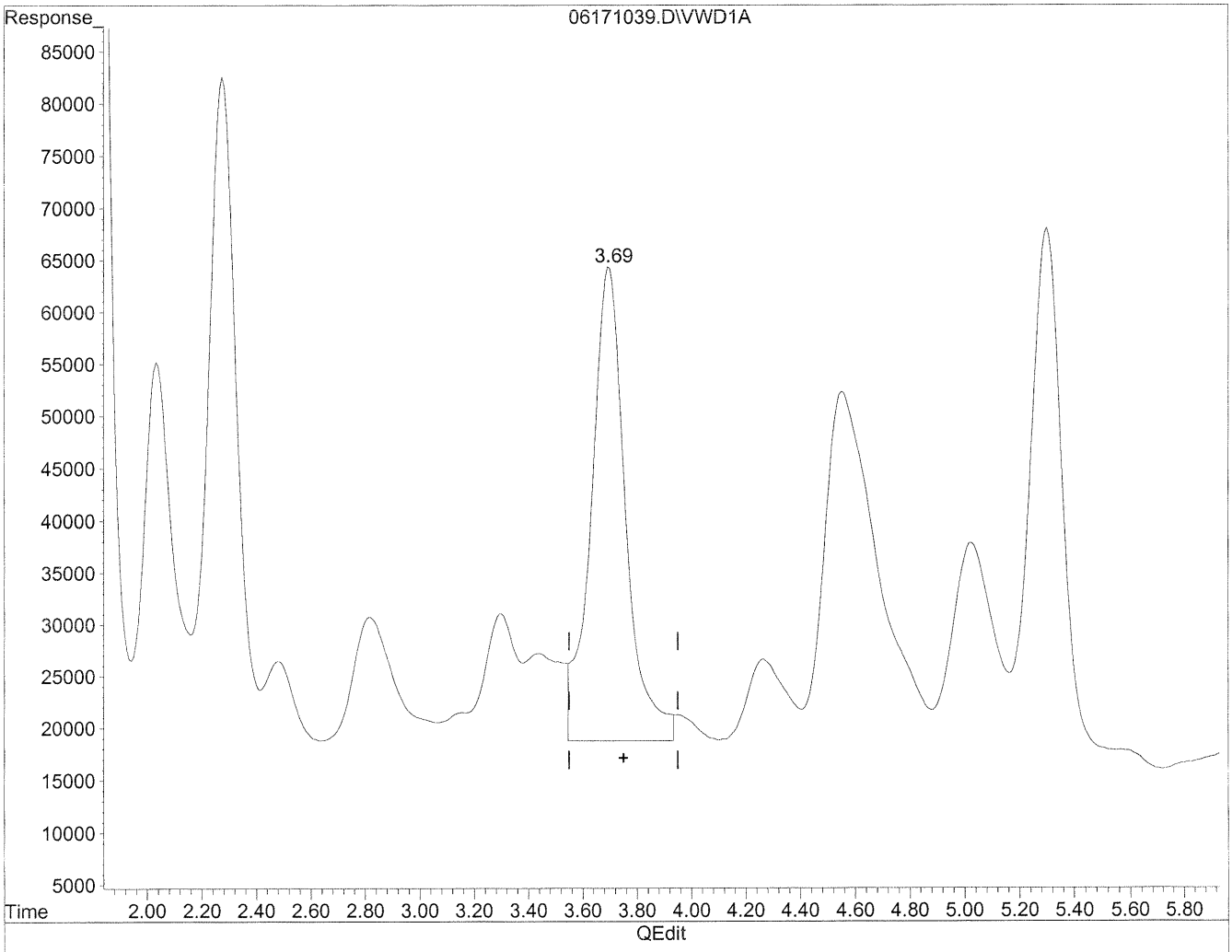
(+) = Expected Retention Time

06171039.D TO110510.M Fri Jun 18 09:10:29 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171039.D Vial: 129
Acq On : 17-Jun-2010, 16:10:34 Operator: HC/SM
Sample : P1001953-015 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.69min 1001.345ng/ml m

response 4034722

HC 6/18/10

6/21/10

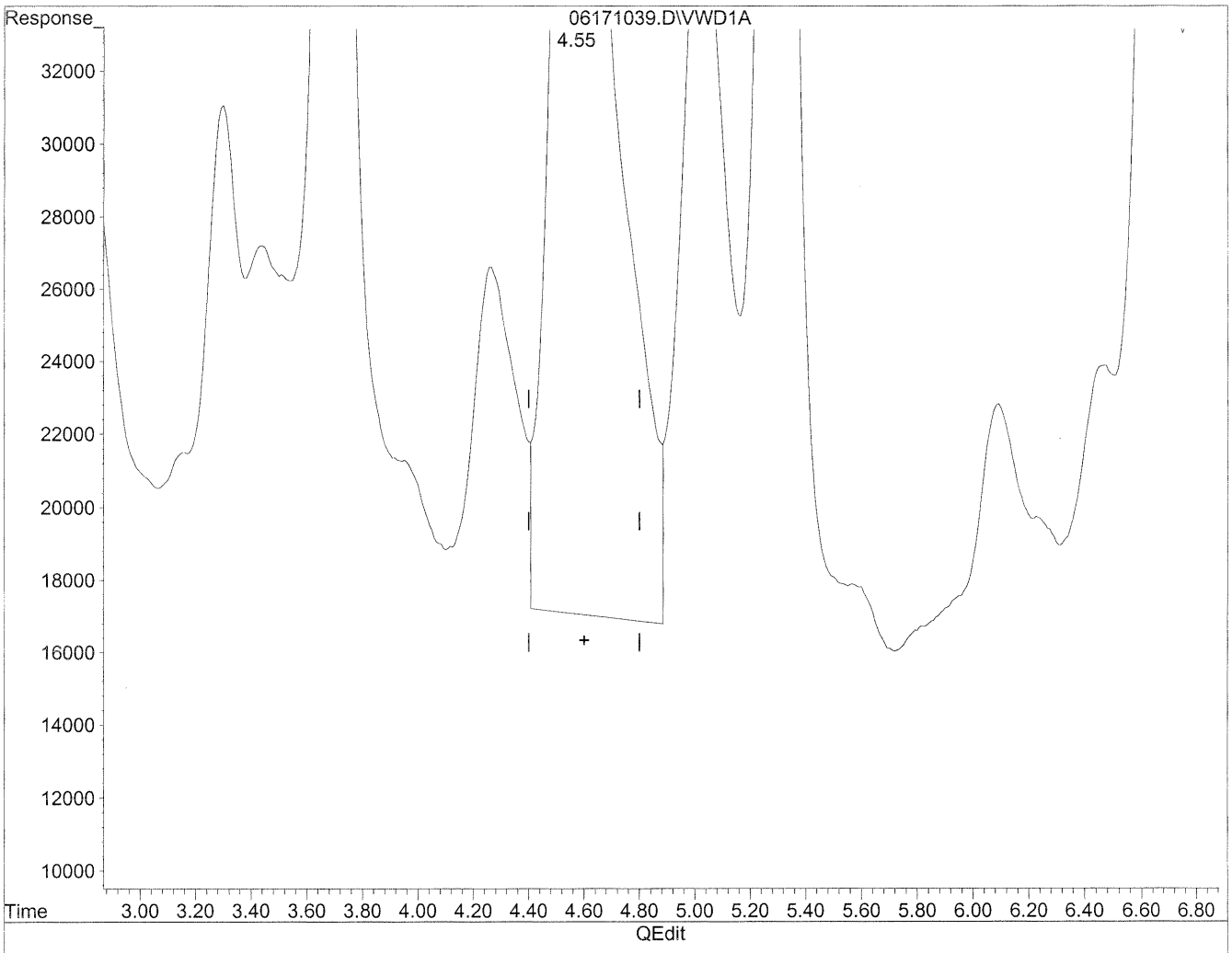
(+) = Expected Retention Time

06171039.D TO110510.M Fri Jun 18 09:11:22 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171039.D Vial: 129
Acq On : 17-Jun-2010, 16:10:34 Operator: HC/SM
Sample : P1001953-015 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.56min 1866.175ng/ml

response 5051219

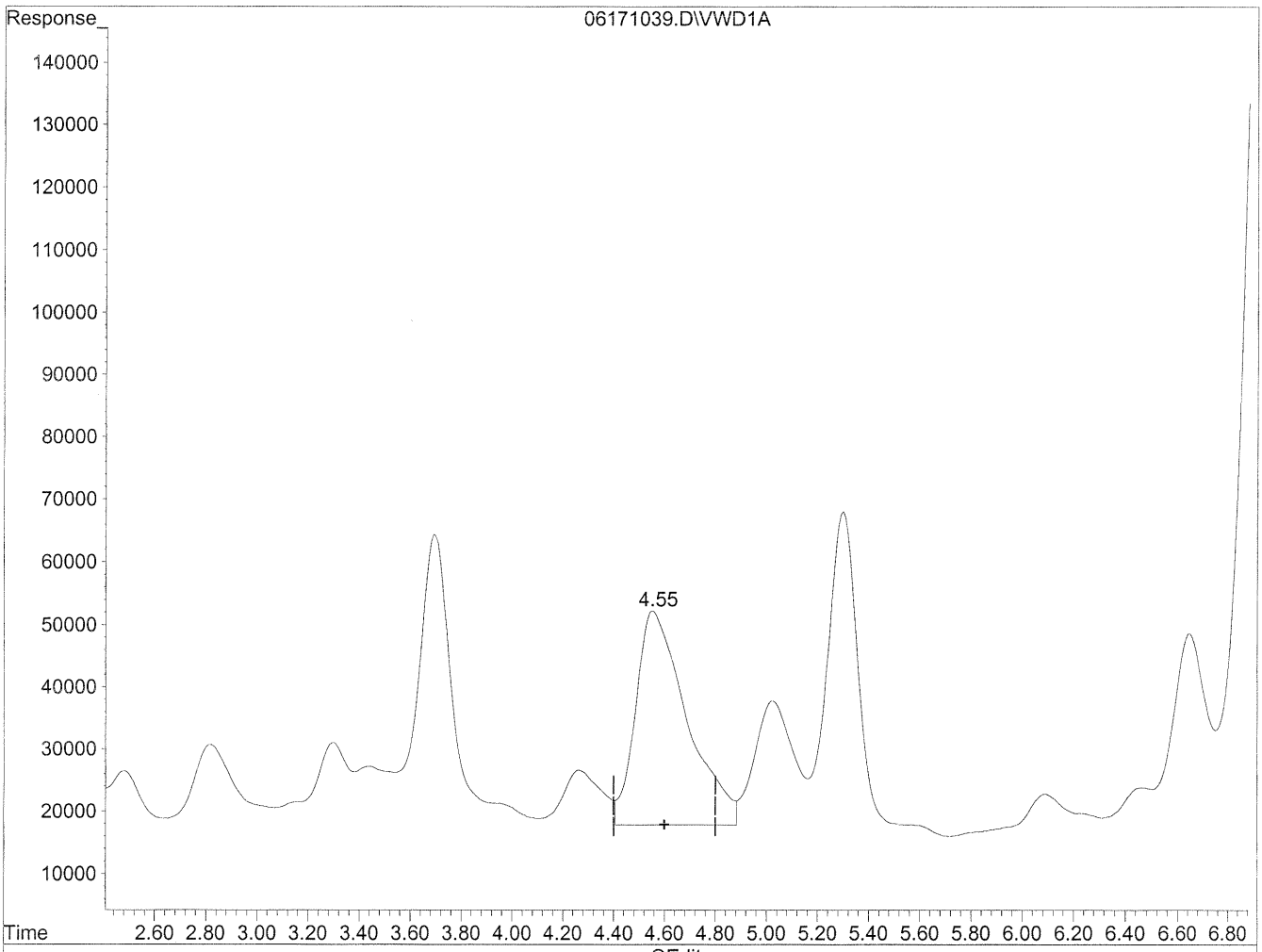
(+) = Expected Retention Time

06171039.D TO110510.M Fri Jun 18 09:11:32 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171039.D Vial: 129
Acq On : 17-Jun-2010, 16:10:34 Operator: HC/SM
Sample : P1001953-015 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.55min 1785.991ng/ml m

response 4834184

HC 6/18/10

BC

6/21/10

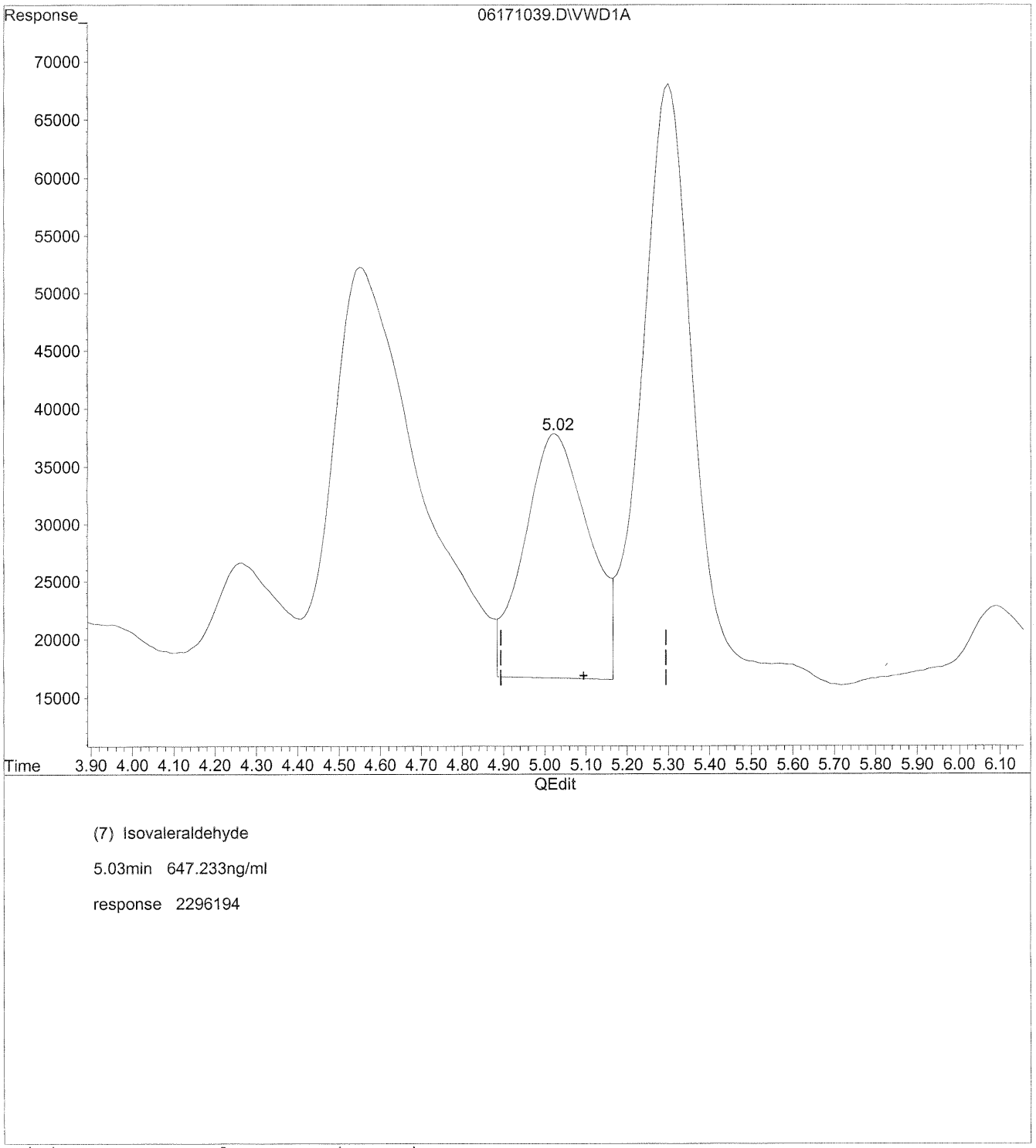
(+) = Expected Retention Time

06171039.D TO110510.M Fri Jun 18 09:11:45 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171039.D Vial: 129
Acq On : 17-Jun-2010, 16:10:34 Operator: HC/SM
Sample : P1001953-015 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.03min 647.233ng/ml

response 2296194

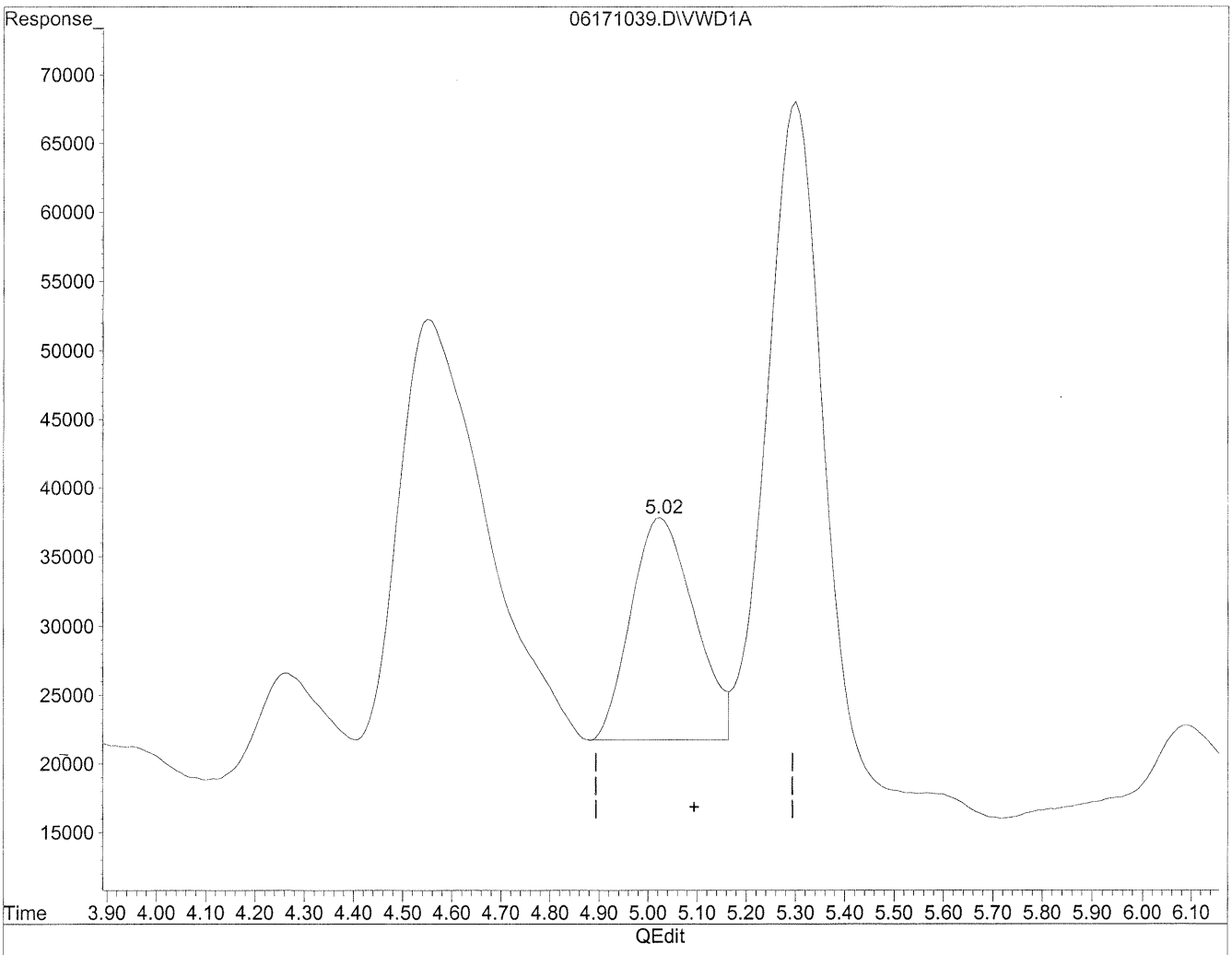
(+) = Expected Retention Time

06171039.D TO110510.M Fri Jun 18 09:11:48 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171039.D Vial: 129
Acq On : 17-Jun-2010, 16:10:34 Operator: HC/SM
Sample : P1001953-015 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.02min 404.915ng/ml m

response 1436520

6/18/10 BL

6/21/10

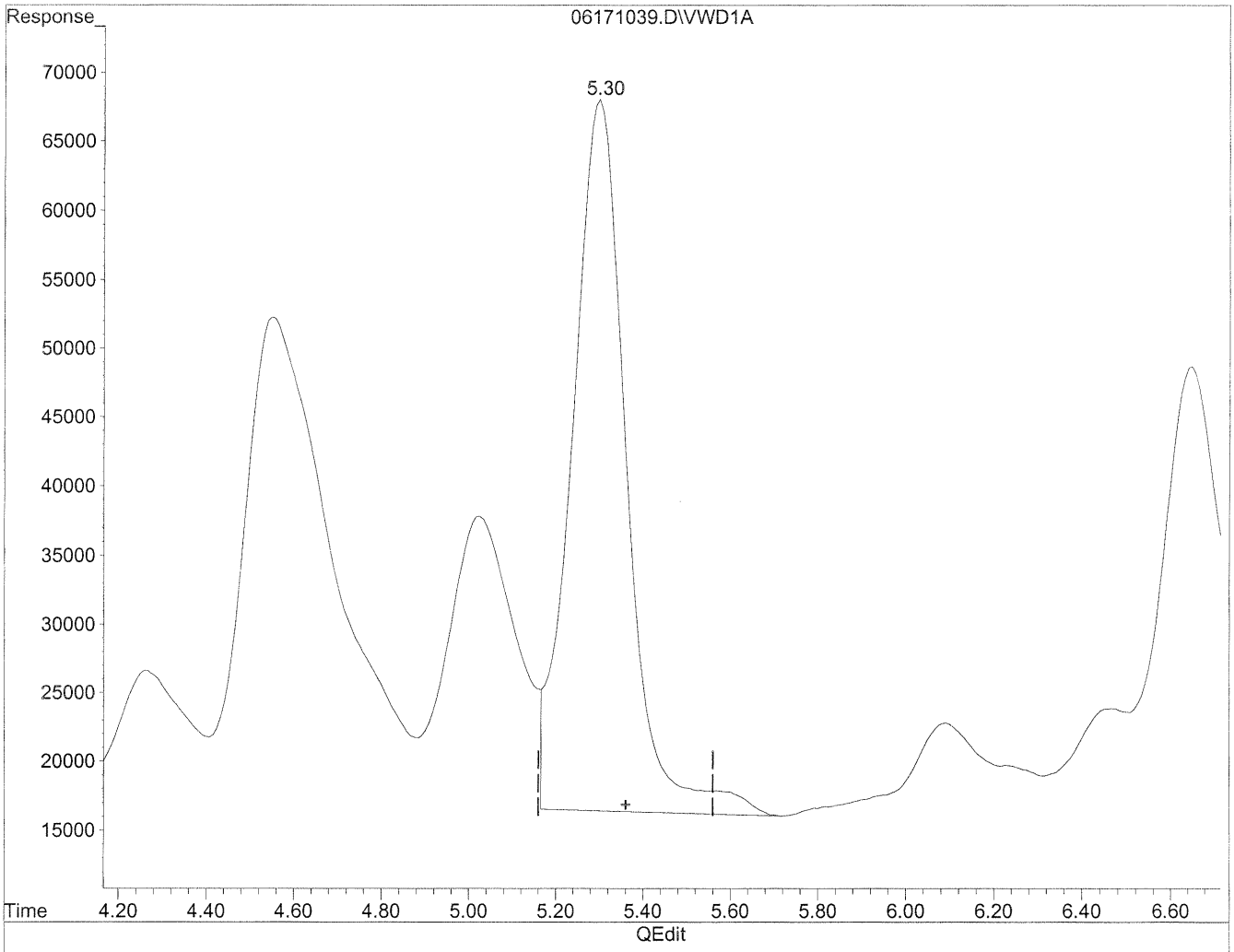
(+) = Expected Retention Time

06171039.D TO110510.M Fri Jun 18 09:11:58 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171039.D Vial: 129
Acq On : 17-Jun-2010, 16:10:34 Operator: HC/SM
Sample : P1001953-015 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.30min 1348.025ng/ml

response 4522105

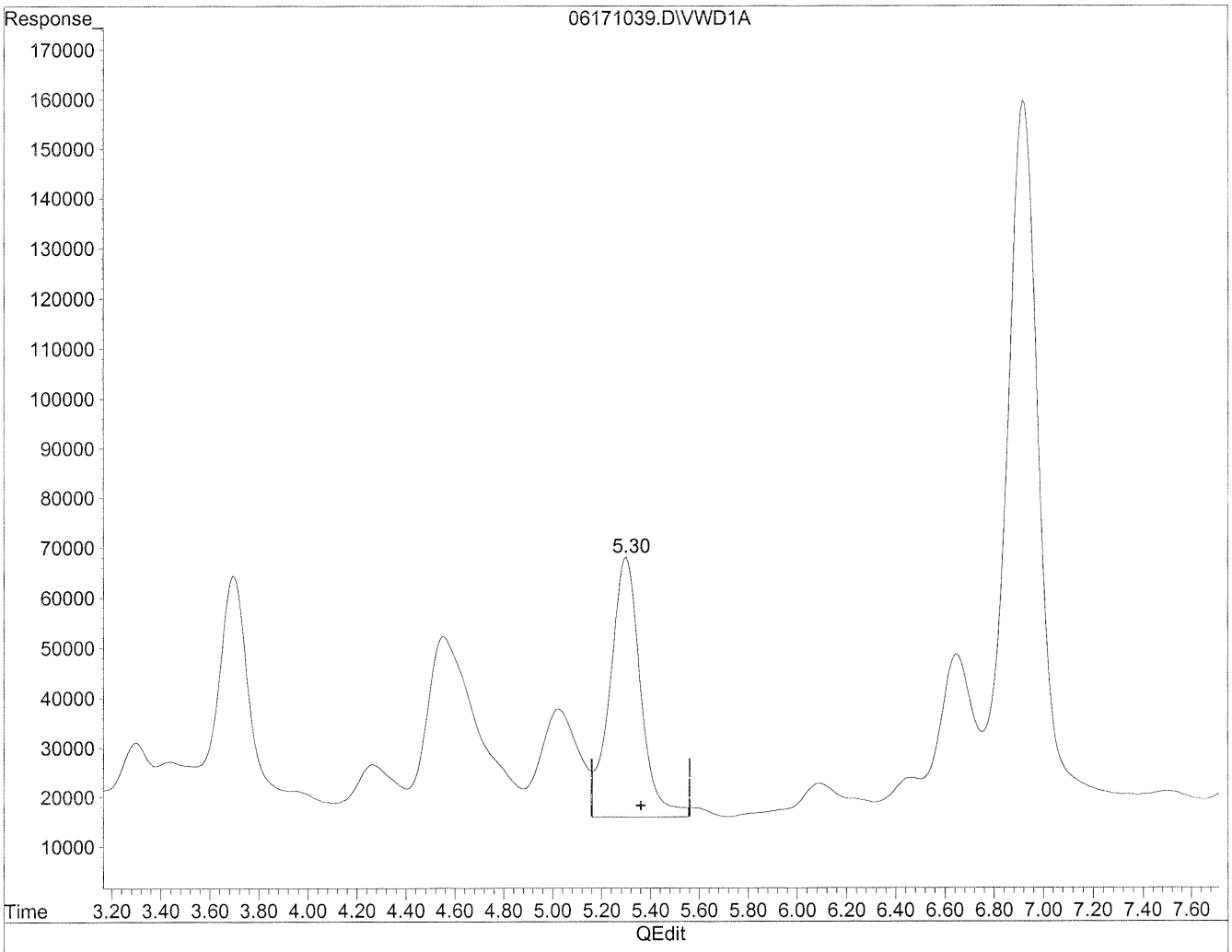
(+) = Expected Retention Time

06171039.D TO110510.M Fri Jun 18 09:12:02 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171039.D Vial: 129
Acq On : 17-Jun-2010, 16:10:34 Operator: HC/SM
Sample : P1001953-015 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.30min 1341.155ng/ml m

response 4499060

HC 6/15/10 SM

Fit BL see next page MD 6/21/10

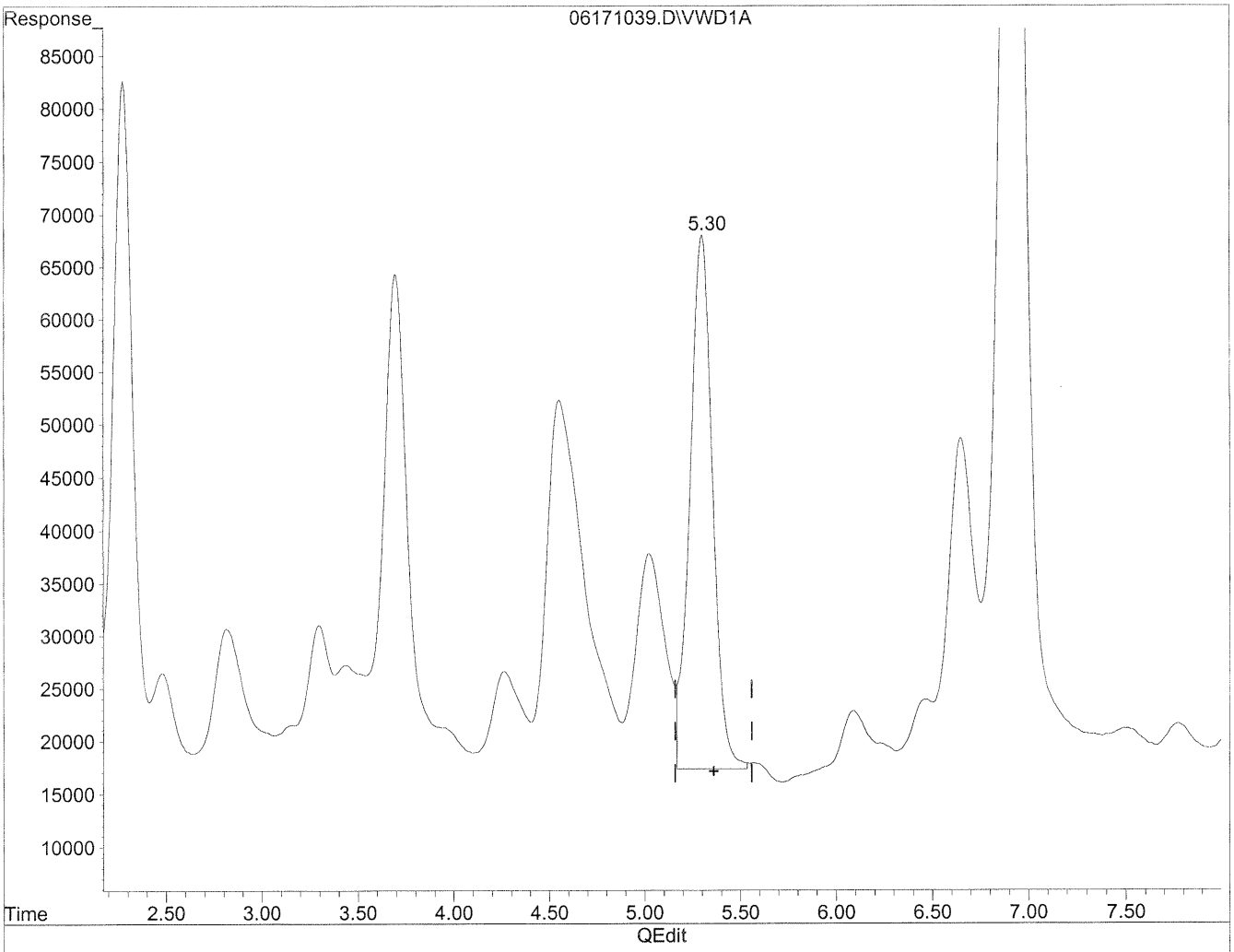
(+) = Expected Retention Time

06171039.D TO110510.M Fri Jun 18 09:12:33 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171039.D Vial: 129
Acq On : 17-Jun-2010, 16:10 Operator: HC/SM
Sample : P1001953-015 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:21 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.30min 1243.202ng/ml m

response 4170464

Fix
BR MP 6/21/10

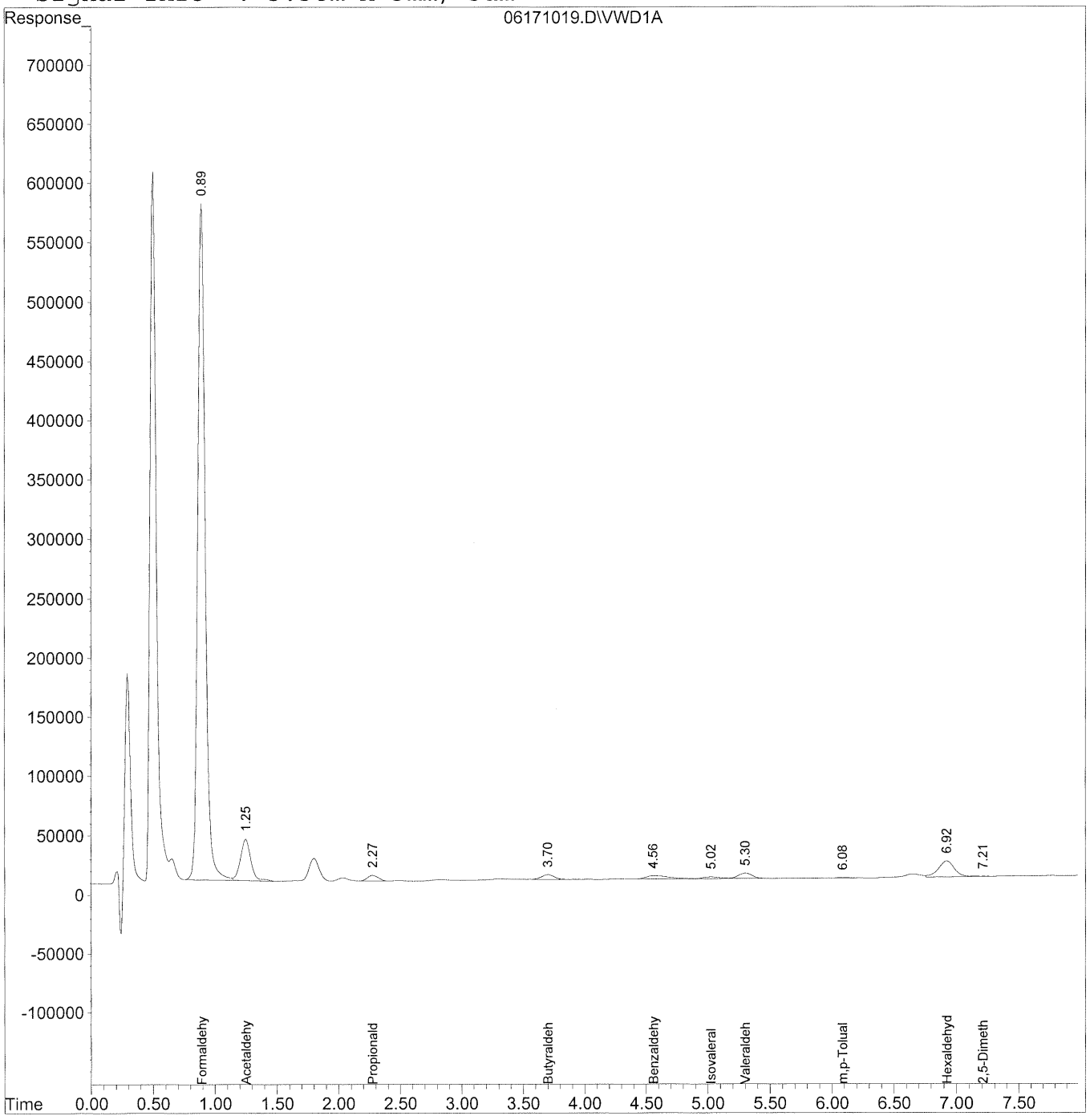
(+) = Expected Retention Time

06171039.D TO110510.M Mon Jun 21 11:21:39 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171019.D Vial: 115
Acq On : 17-Jun-2010, 12:42:59 Operator: HC/SM
Sample : P1001953-015 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:23 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171019.D Vial: 115
Acq On : 17-Jun-2010, 12:42:59 Operator: HC/SM
Sample : P1001953-015 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:23 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

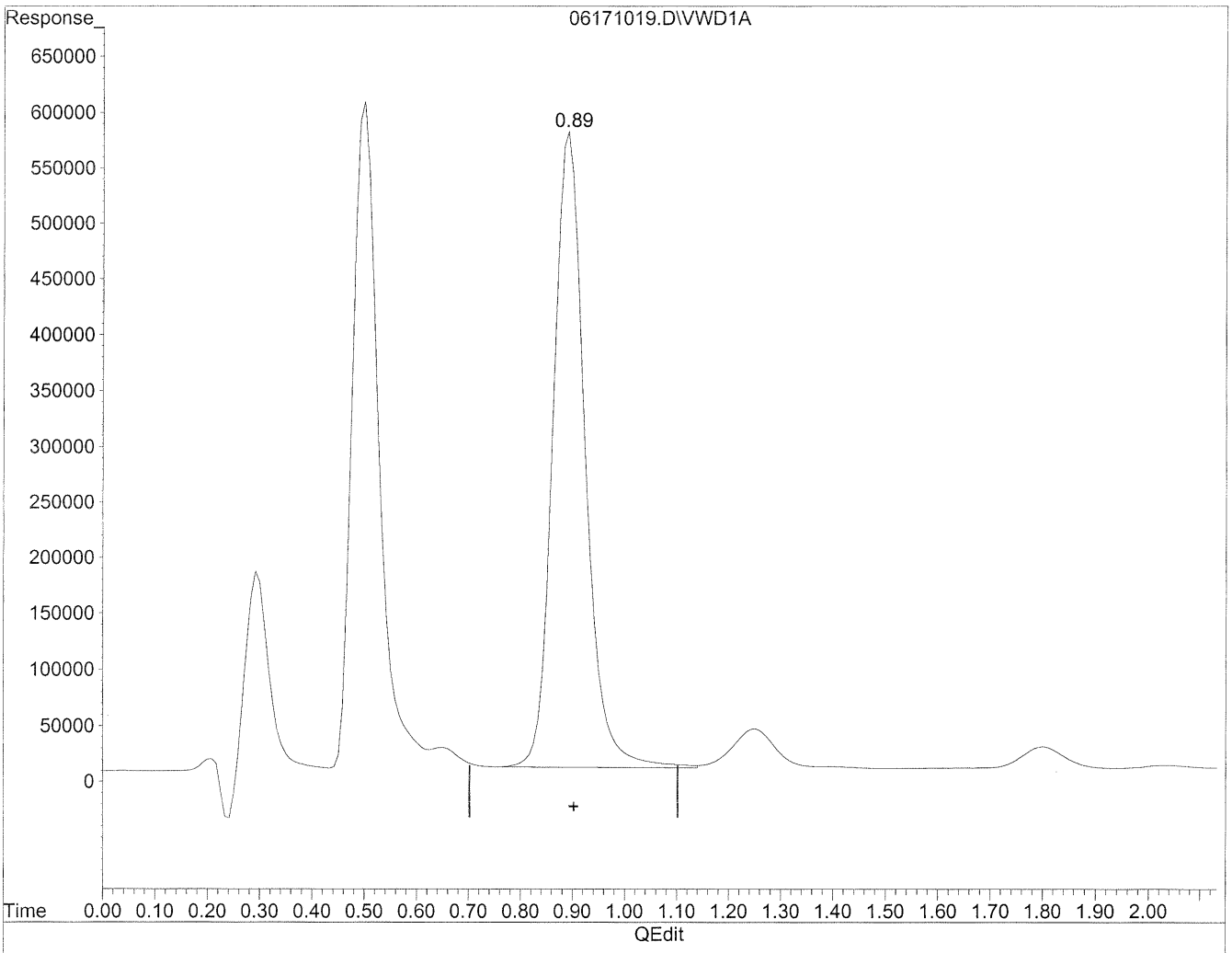
Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	24267117	2600.176	ng/ml
2)	Acetaldehyde	1.25	2053071	304.826	ng/ml
3)	Propionaldehyde	2.28	300857	61.879	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.70	283811	70.437	ng/ml
6)	Benzaldehyde	4.56	344161	127.150	ng/ml
7)	Isovaleraldehyde	5.03	145363	40.974	ng/ml
8)	Valeraldehyde	5.30	352358	105.037	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	6.09	26726	11.409	ng/ml
11)	Hexaldehyde	6.93	1183013	411.429	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.21	5276	2.742	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171019.D Vial: 115
Acq On : 17-Jun-2010, 12:42:59 Operator: HC/SM
Sample : P1001953-015 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 2600.176ng/ml

response 24267117

(+) = Expected Retention Time

06171019.D TO110510.M Fri Jun 18 08:24:02 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **110987**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-016

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 20176 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**51**	**25**	0.10	**21**	0.082	
75-07-0	**Acetaldehyde**	**5.2**	**3.1**	0.12	**1.7**	0.066	
123-38-6	**Propionaldehyde**	**1.6**	**2.1**	0.25	**0.87**	0.11	
123-72-8	**Butyraldehyde**	**1.6**	**7.3**	0.90	**2.5**	0.31	
100-52-7	**Benzaldehyde**	**3.3**	**1.8**	0.11	**0.41**	0.025	
590-86-3	**Isovaleraldehyde**	**0.83**	**0.67**	0.16	**0.19**	0.046	
110-62-3	**Valeraldehyde**	**2.6**	**4.9**	0.37	**1.4**	0.10	
66-25-1	**n-Hexaldehyde**	**8.7**	**24**	0.55	**5.8**	0.13	

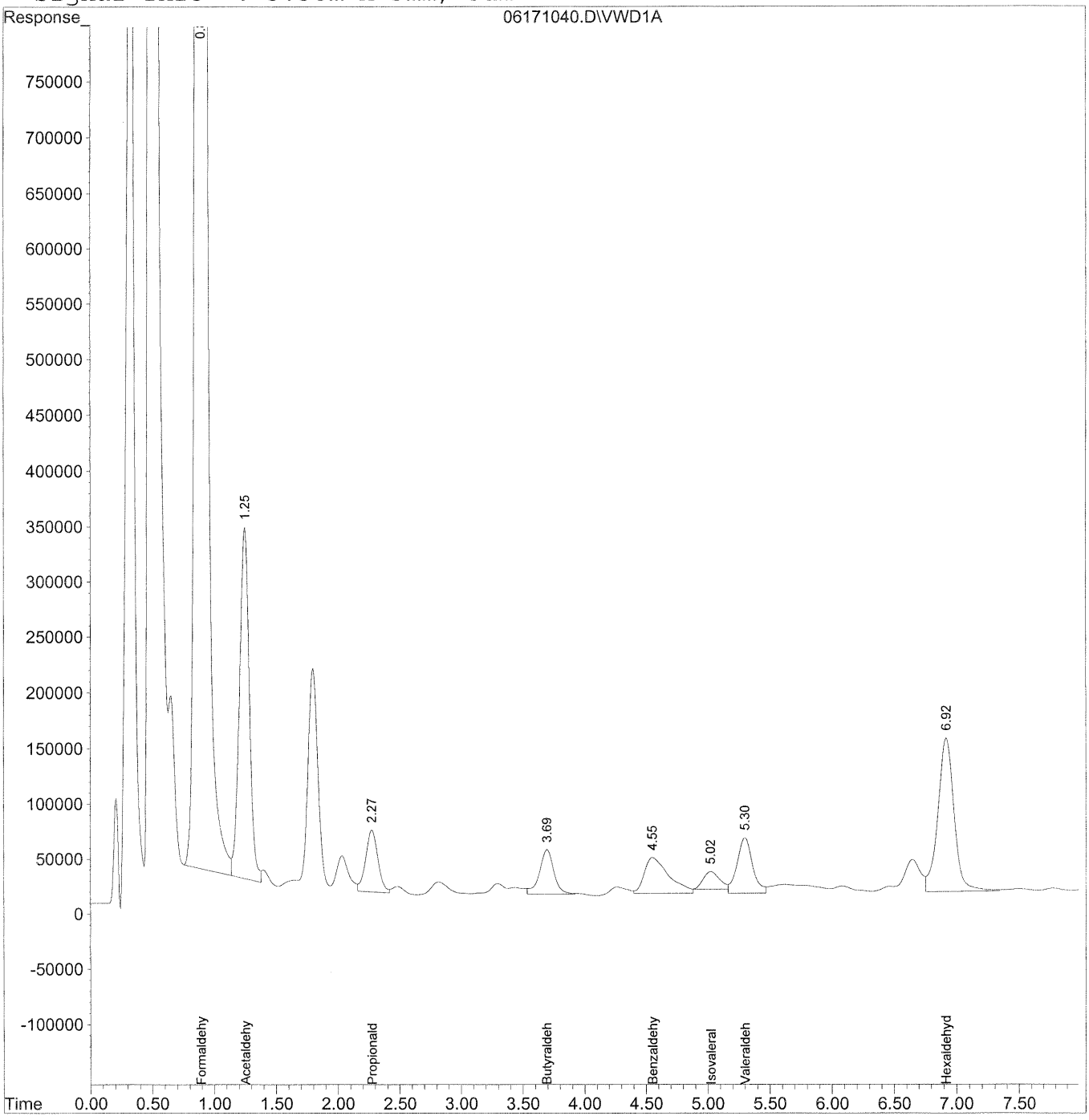
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: _____ Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:25 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:25 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

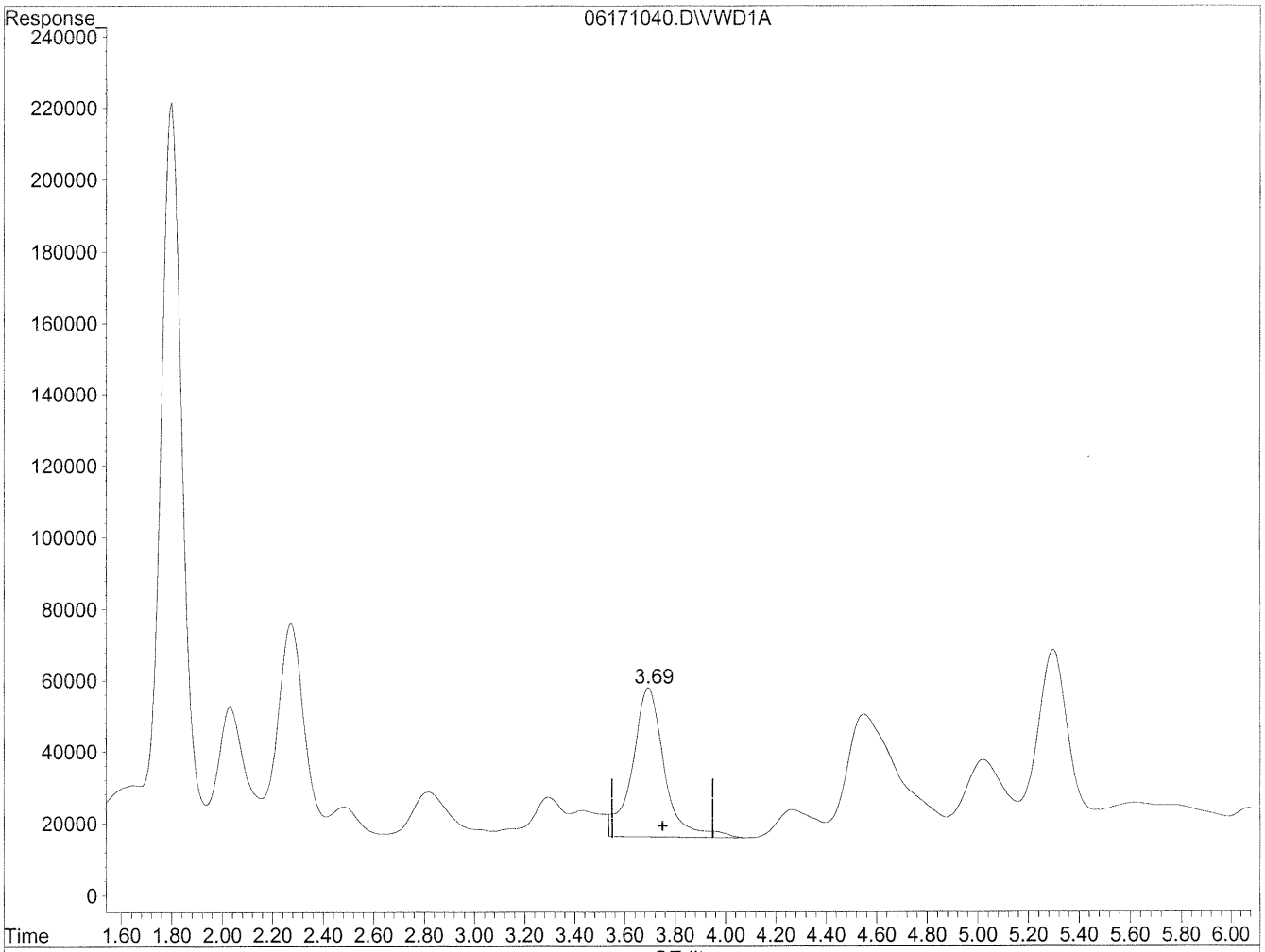
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	238799567	~~25586.926~~	~~ng/ml~~
2)	Acetaldehyde	1.25	17679184	2624.883	ng/ml
3)	Propionaldehyde	2.28	3929420	808.186	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.69	3281401	814.384	ng/mlm
6)	Benzaldehyde	4.55	4507257	1665.208	ng/mlm
7)	Isovaleraldehyde	5.02	1468899	414.042	ng/mlm
8)	Valeraldehyde	5.30	4436814	1322.600	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/mld
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/mld
11)	Hexaldehyde	6.92	12440882	4326.702	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.70min 910.795ng/ml

response 3669871

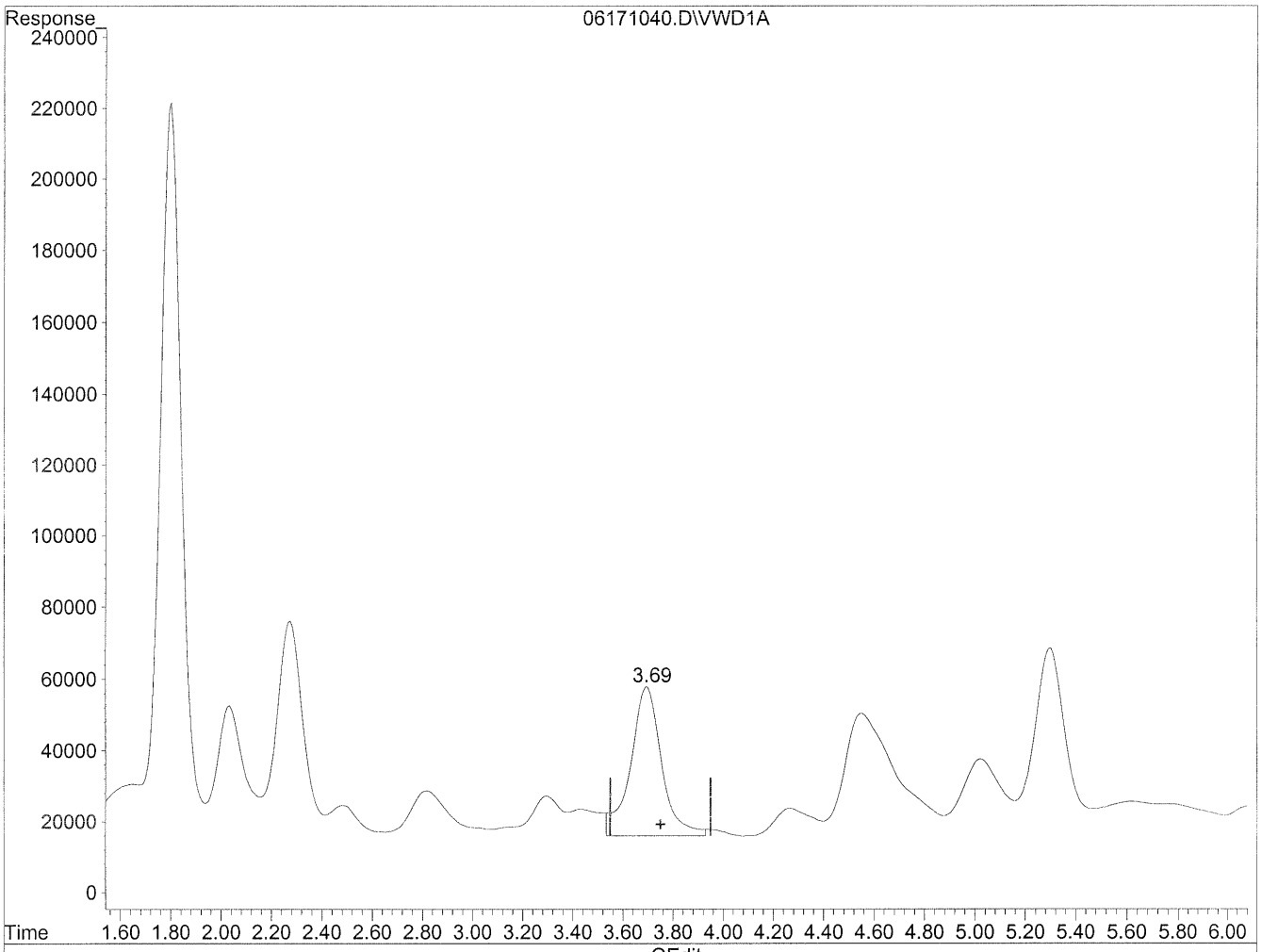
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:13:18 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.69min 903.107ng/ml m

response 3638893

HC 6/18/10 SH Fixed BL see next page. 6/21/10

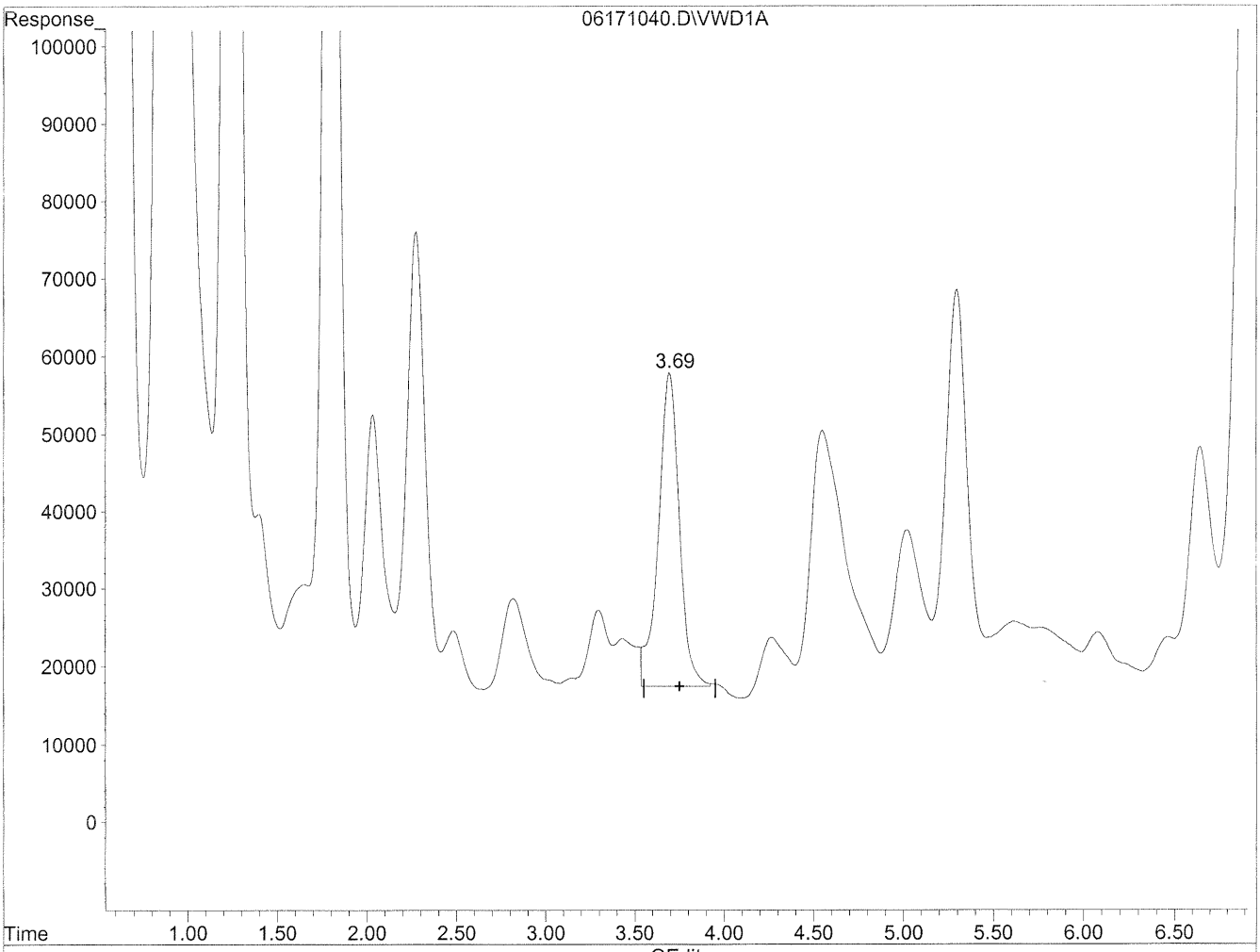
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:13:49 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:25 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.69min 814.384ng/ml m

response 3281401

fixed pk 6/21/10

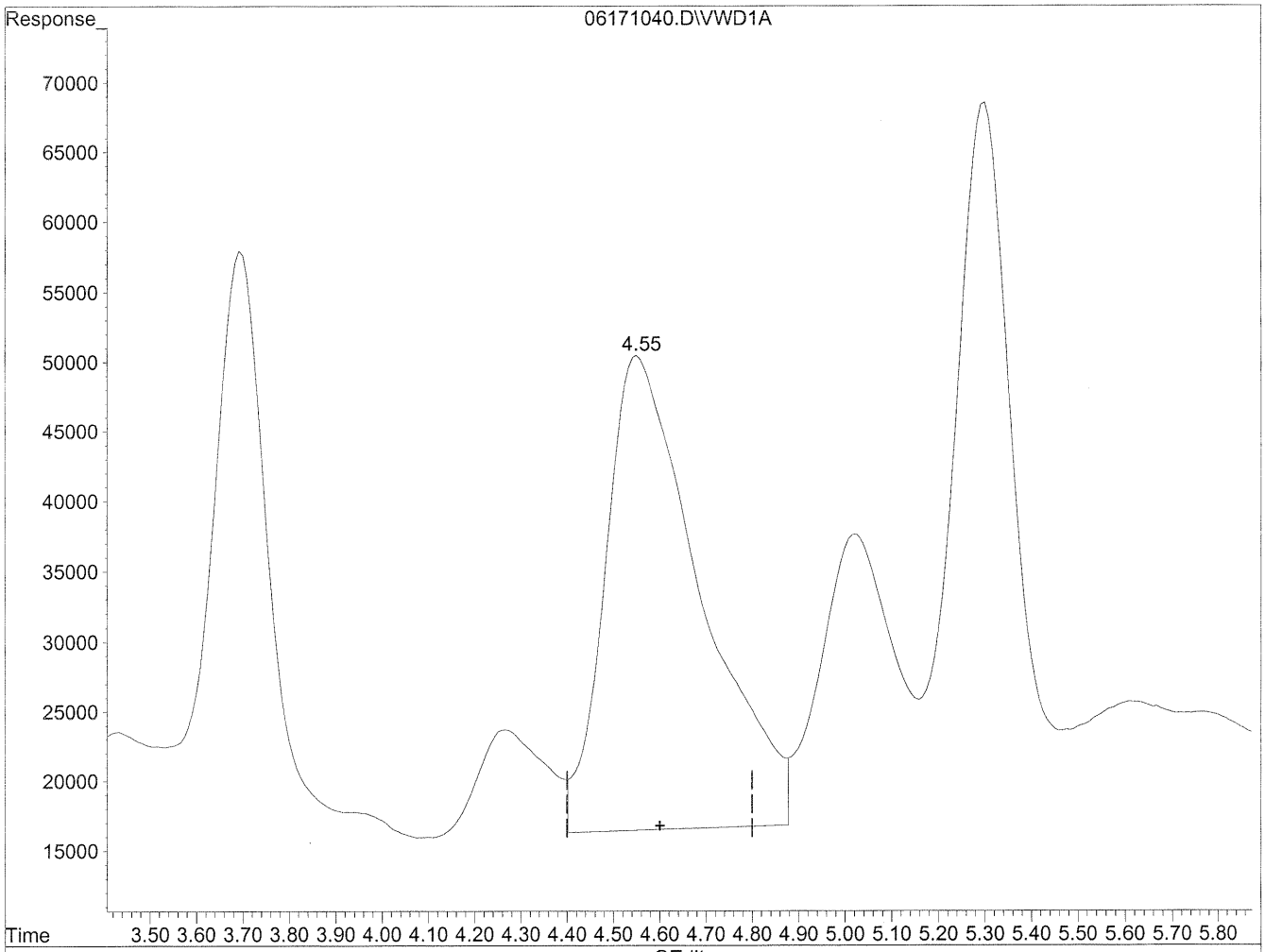
(+) = Expected Retention Time

06171040.D TO110510.M Mon Jun 21 11:25:40 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.55min 1794.240ng/ml

response 4856510

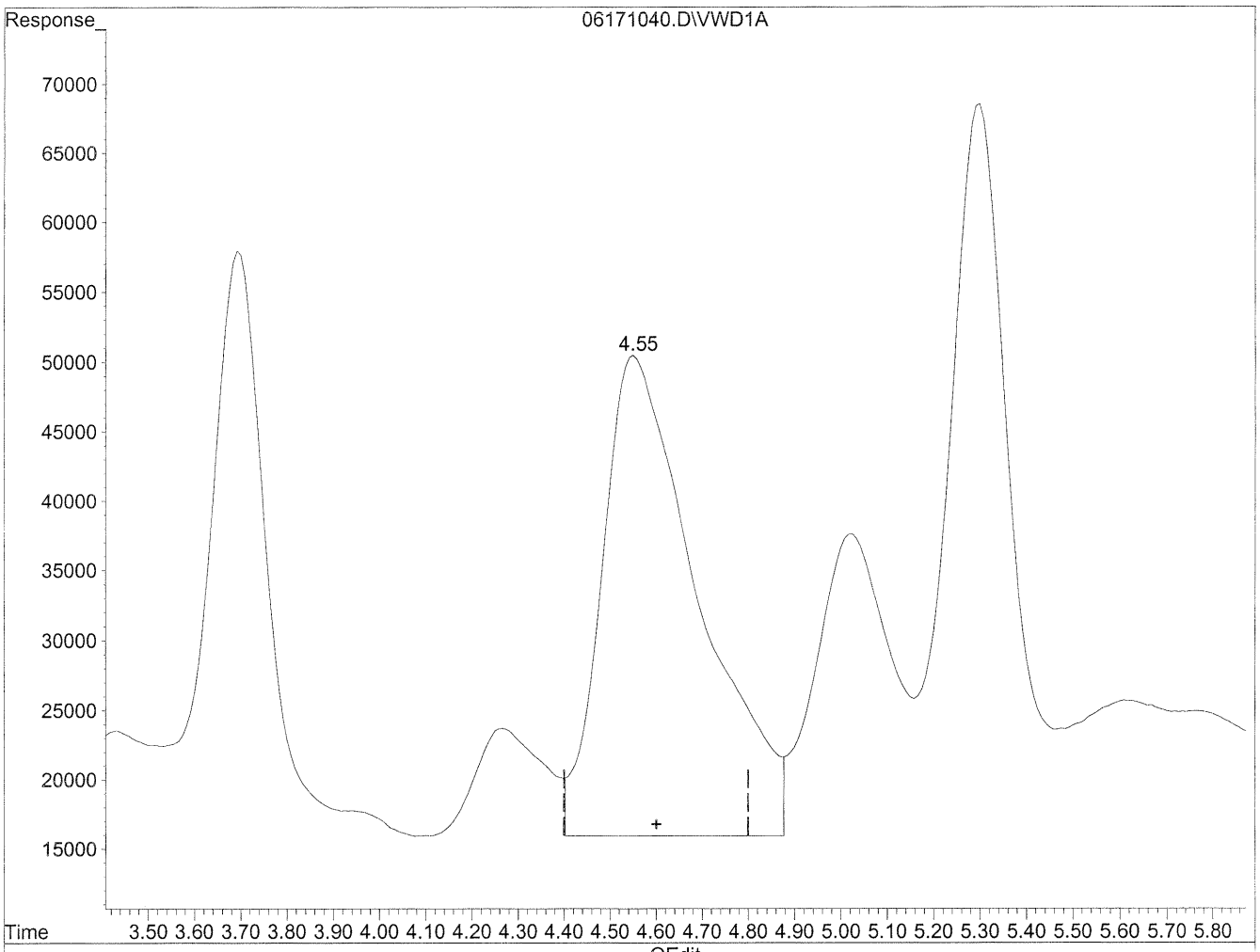
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:13:53 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.55min 1864.013ng/ml m

response 5045366

HL 6/18/10 BC

Fixed BL see next page

MD 6/21/10

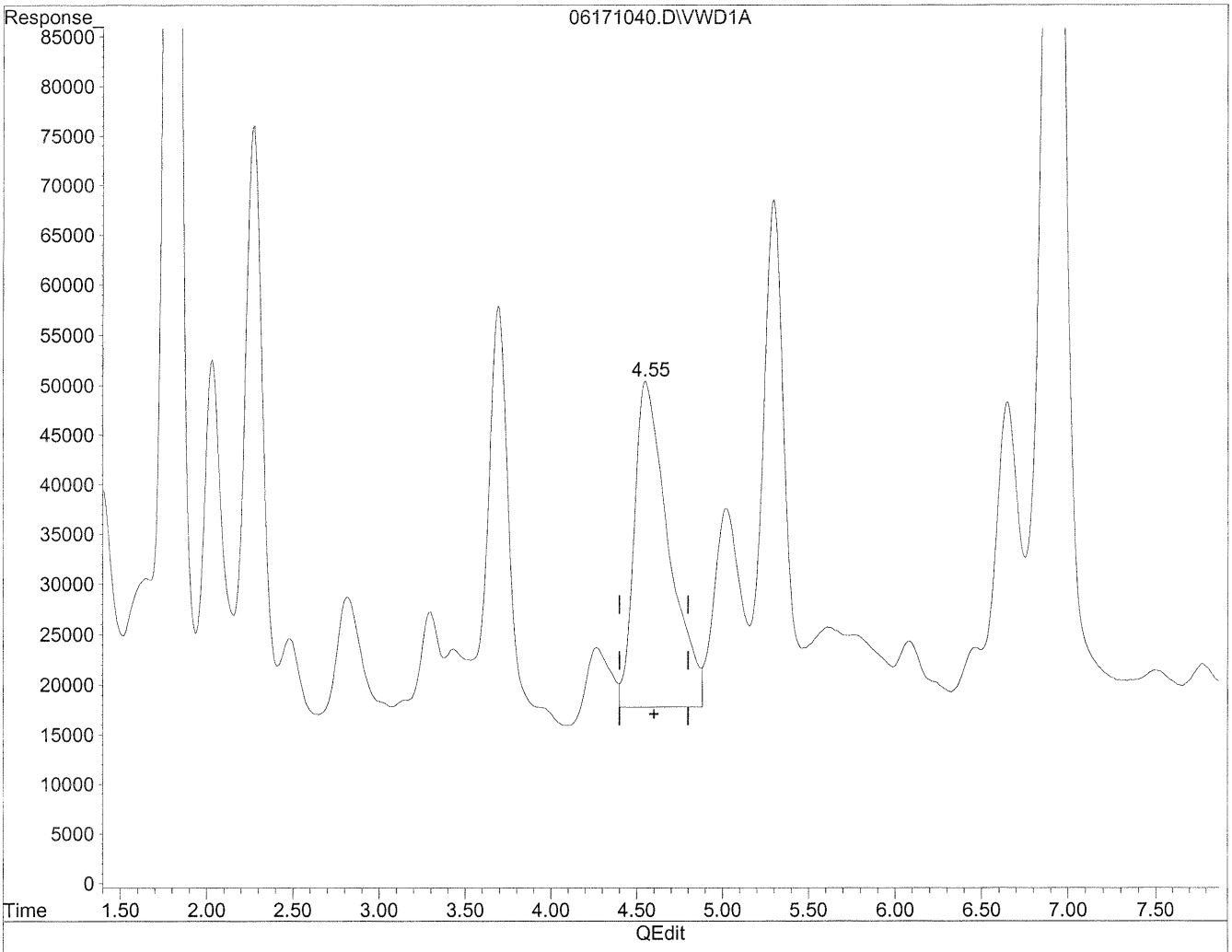
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:14:06 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:25 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.55min 1665.208ng/ml m

response 4507257

fit BL MD 6/21/10

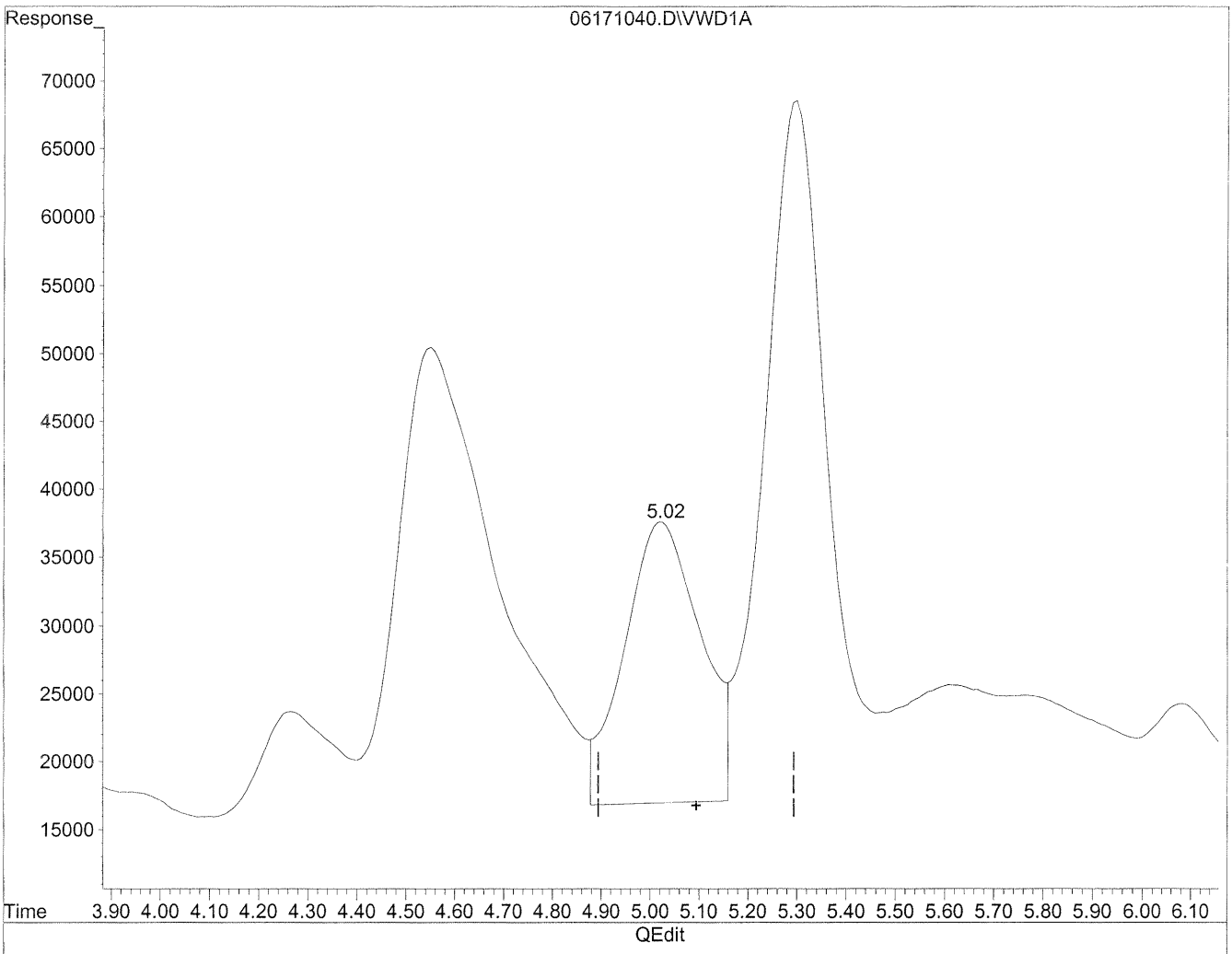
(+) = Expected Retention Time

06171040.D TO110510.M Mon Jun 21 11:25:49 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.02min 629.931ng/ml

response 2234809

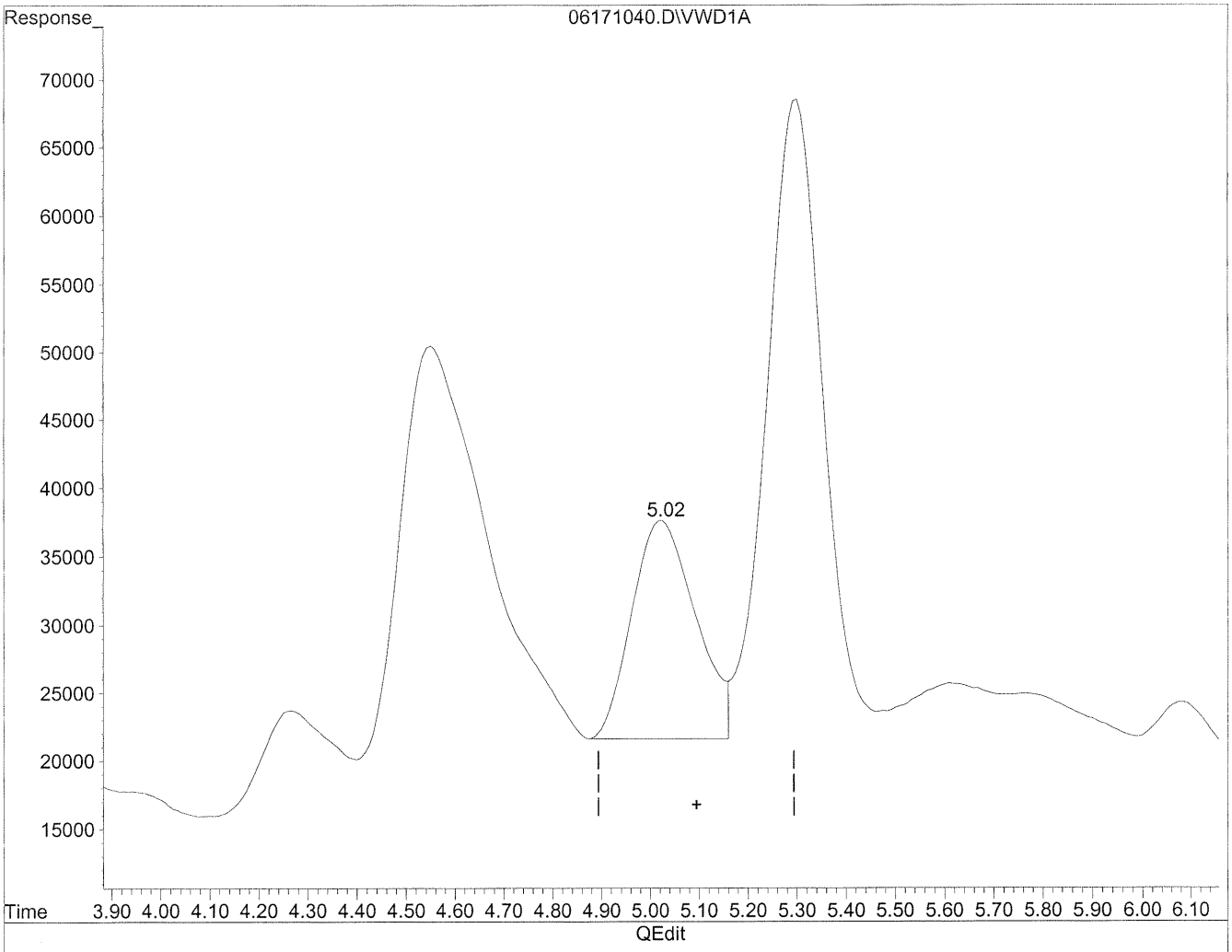
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:14:10 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.02min 414.042ng/ml m

response 1468899

HC 6/18/10 BC

6/21/10

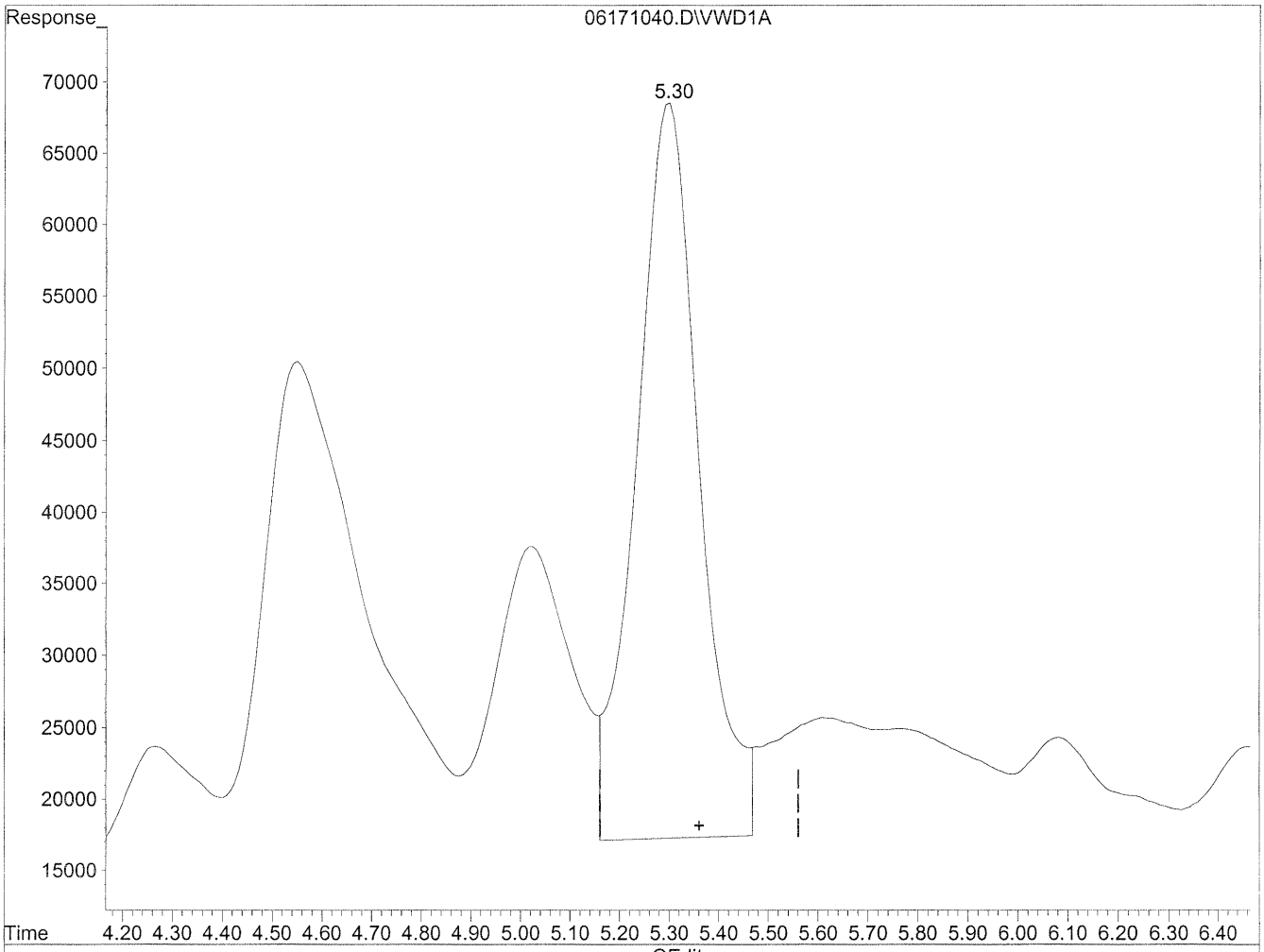
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:14:26 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:21 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.30min 1351.073ng/ml

response 4532330

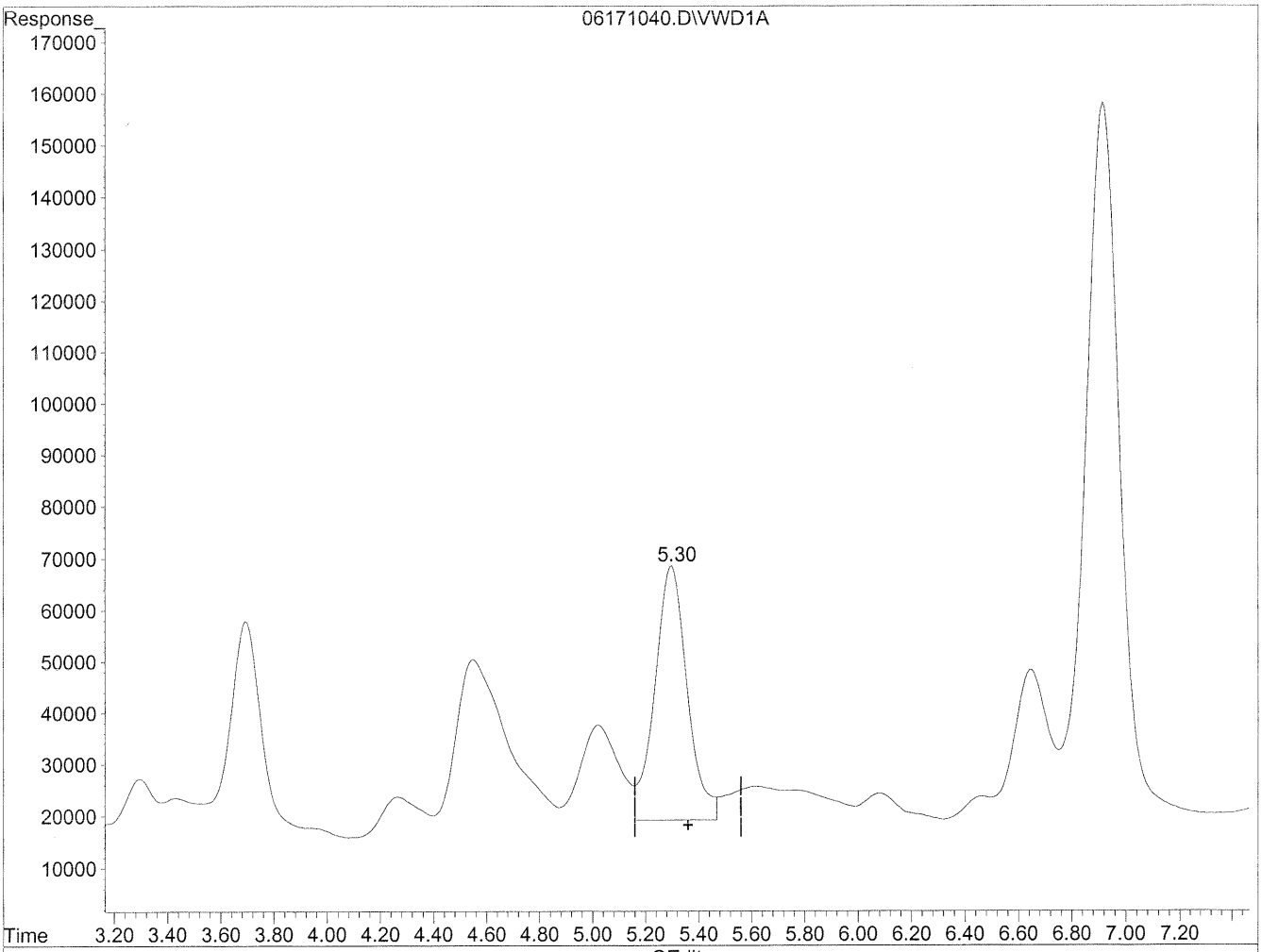
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:22:11 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:21 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.30min 1245.992ng/ml m

response 4179822

HC 6/18/10 BC

fixed pk see next page MN 6/21/10

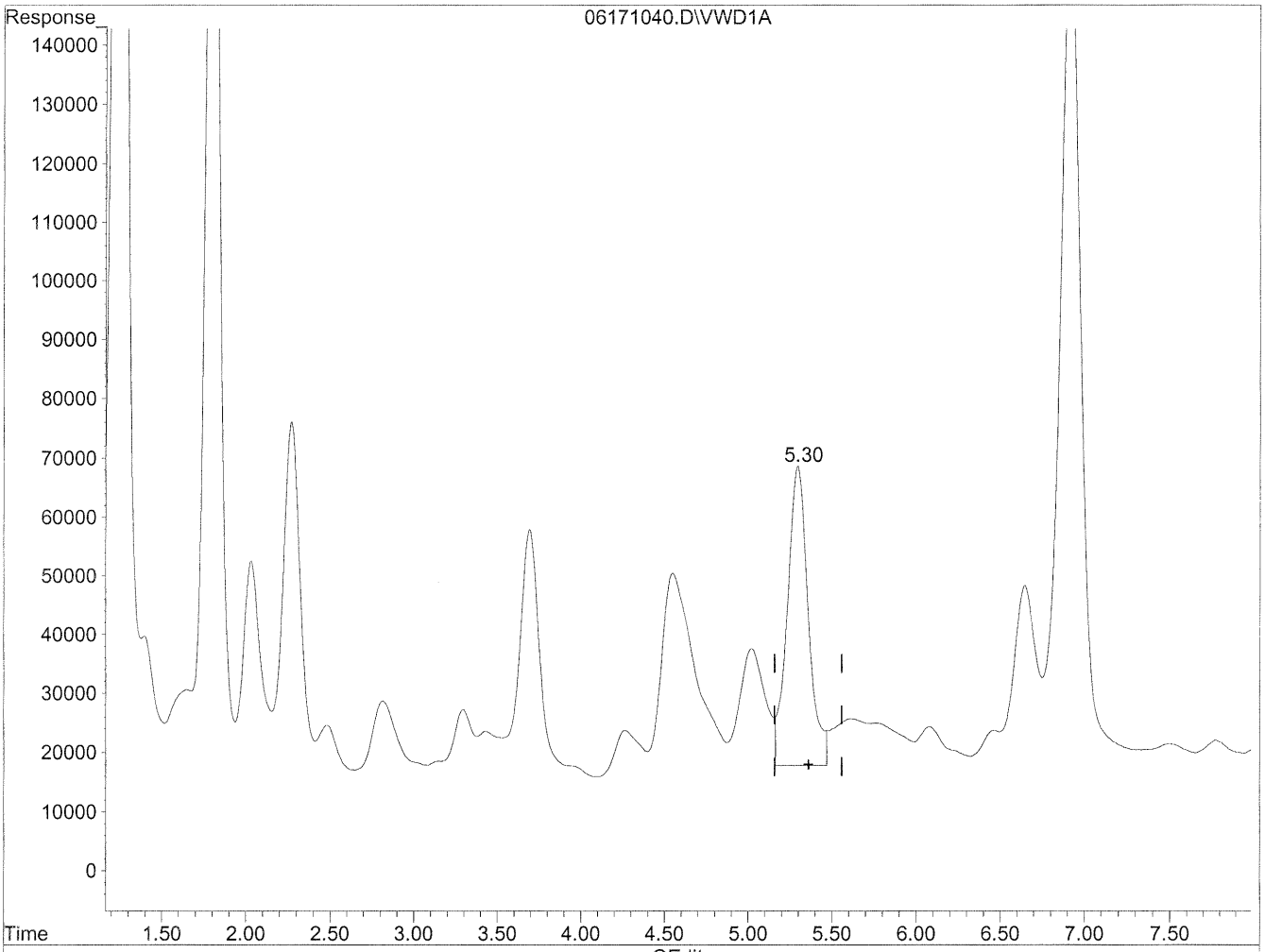
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:22:29 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:25 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.30min 1322.600ng/ml m

response 4436814

fit pk
me
6/21/10

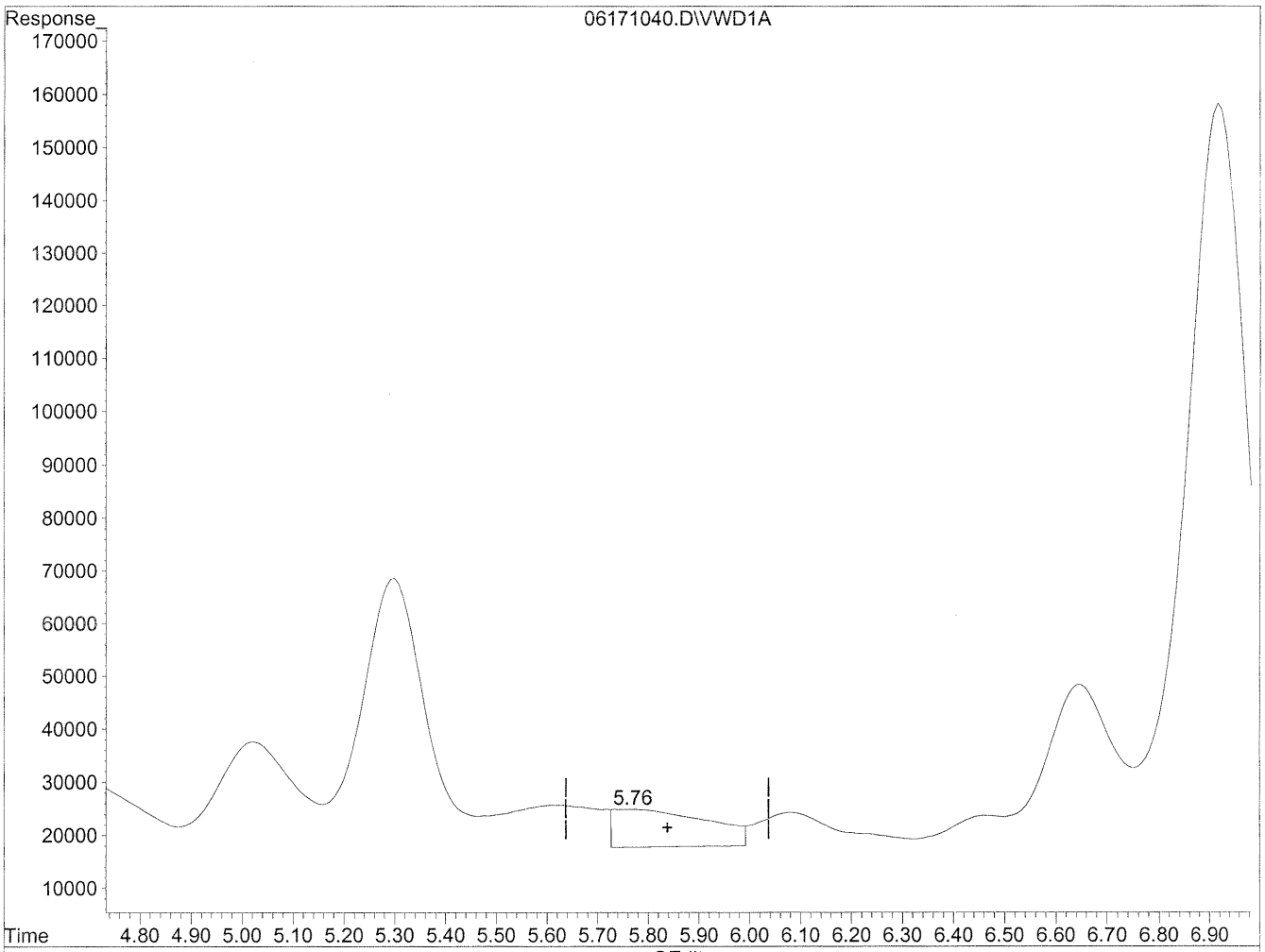
(+) = Expected Retention Time

06171040.D TO110510.M Mon Jun 21 11:25:58 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.77min 449.921ng/ml

response 915831

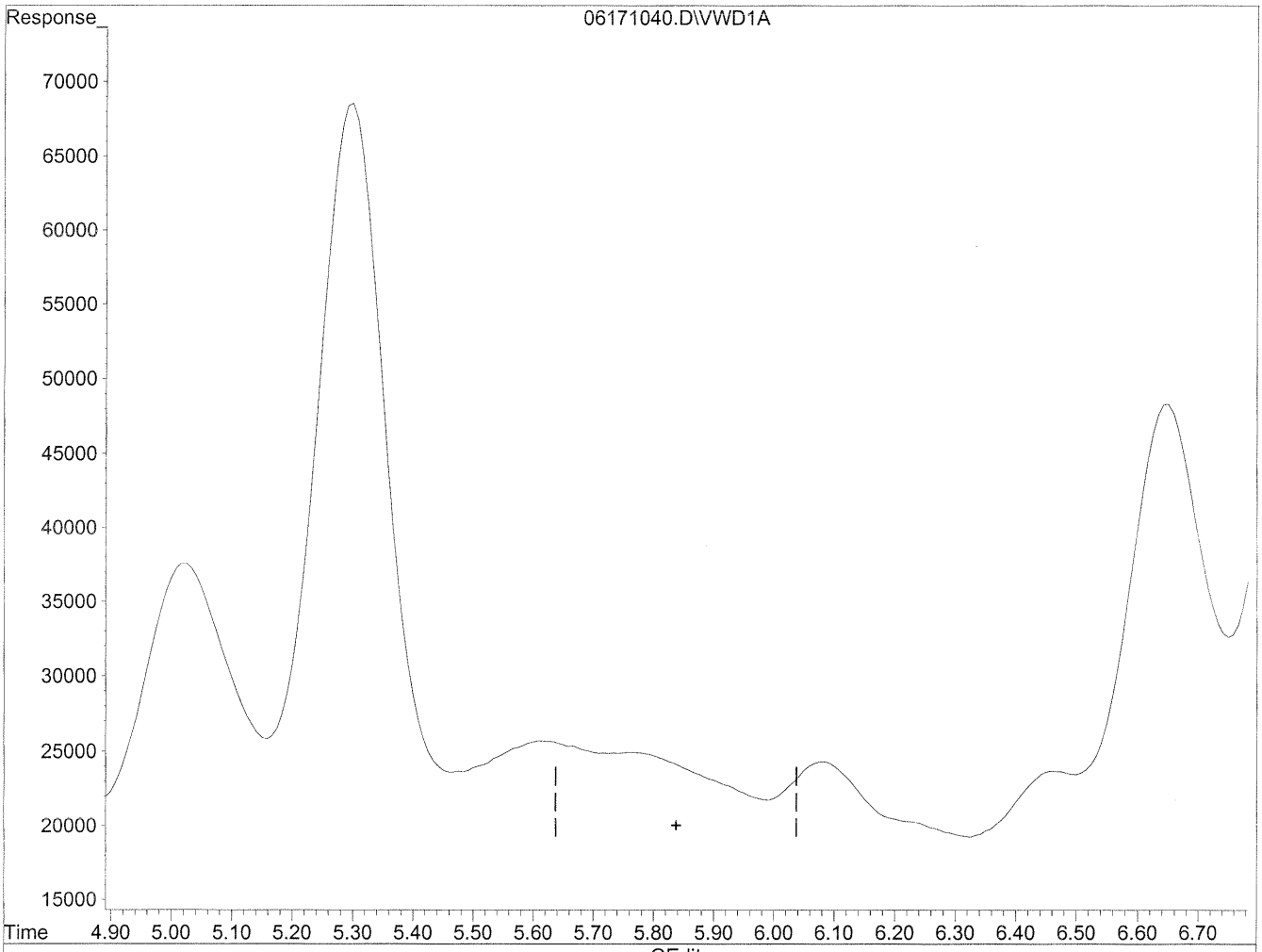
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:21:39 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

0.00min 0.000ng/ml d

response 0

HC 6/18/10

MP 6/21/10

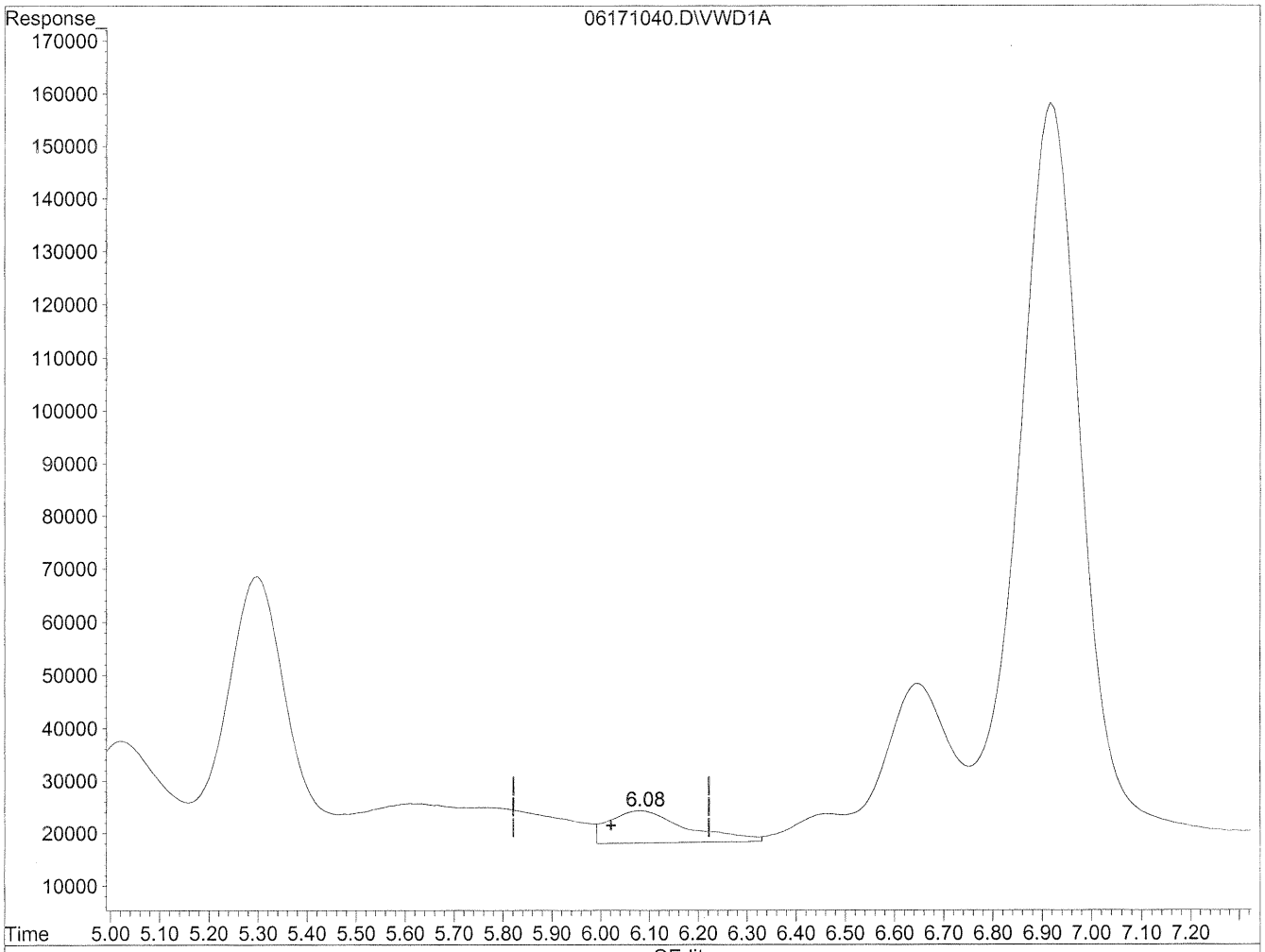
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:21:42 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

6.08min 293.109ng/ml

response 686639

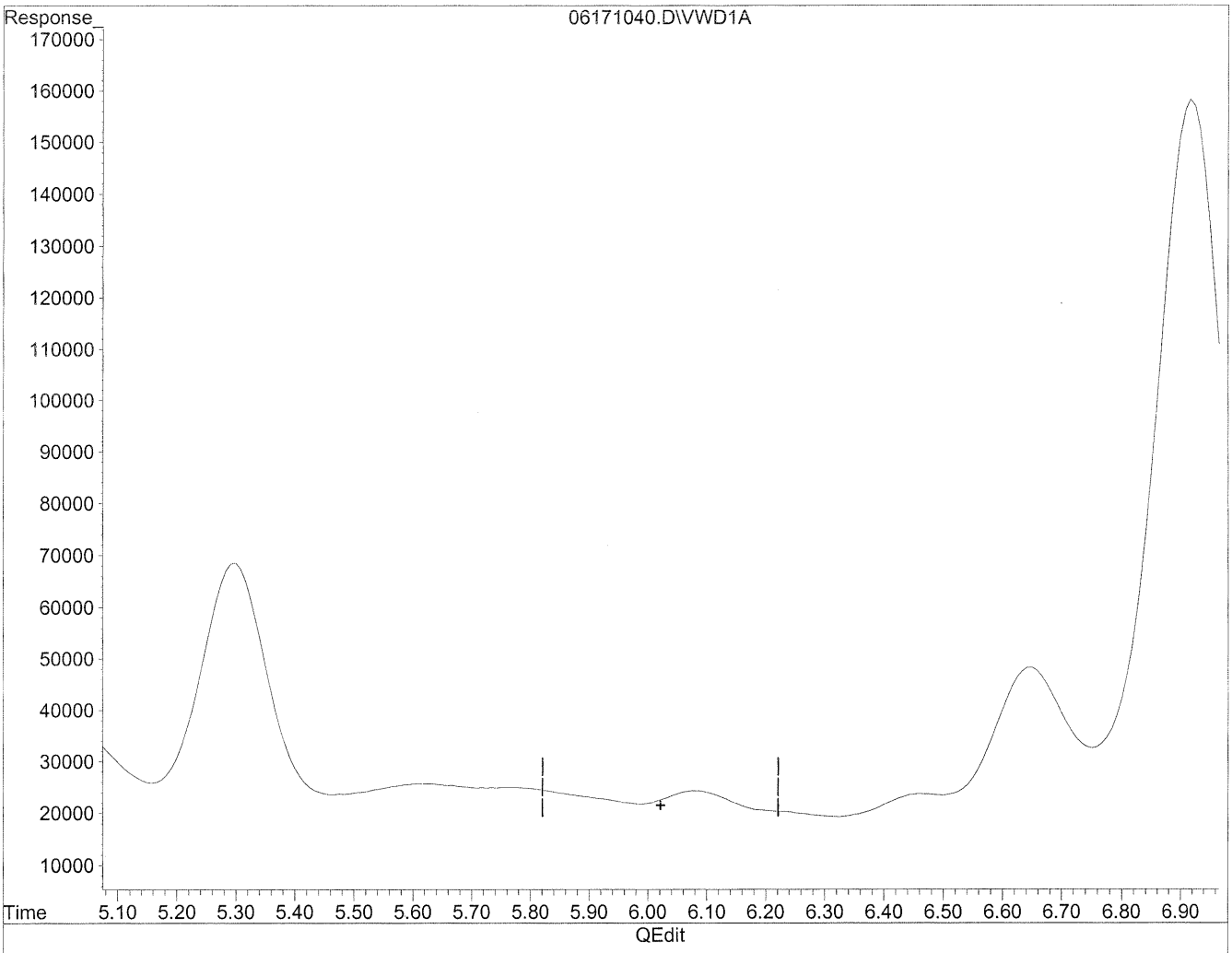
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:21:46 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171040.D Vial: 130
Acq On : 17-Jun-2010, 16:21:08 Operator: HC/SM
Sample : P1001953-016 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

0.00min 0.000ng/ml d

response 0

HC 6/18/10 mp/RT

6/21/10

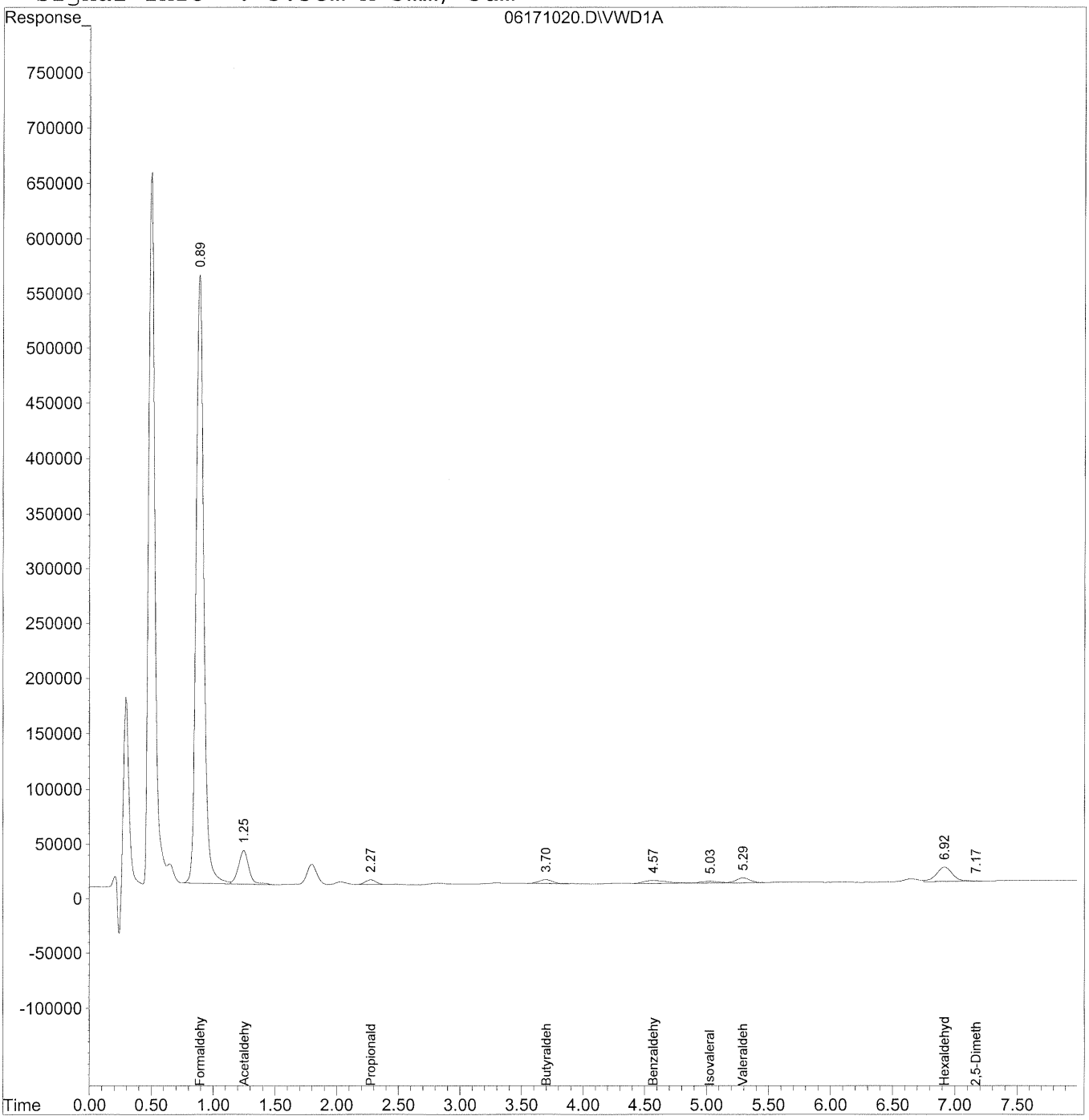
(+) = Expected Retention Time

06171040.D TO110510.M Fri Jun 18 09:21:48 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171020.D Vial: 116
Acq On : 17-Jun-2010, 12:53:35 Operator: HC/SM
Sample : P1001953-016 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:21 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 15:05:43 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171020.D Vial: 116
Acq On : 17-Jun-2010, 12:53:35 Operator: HC/SM
Sample : P1001953-016 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:21 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 15:05:43 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

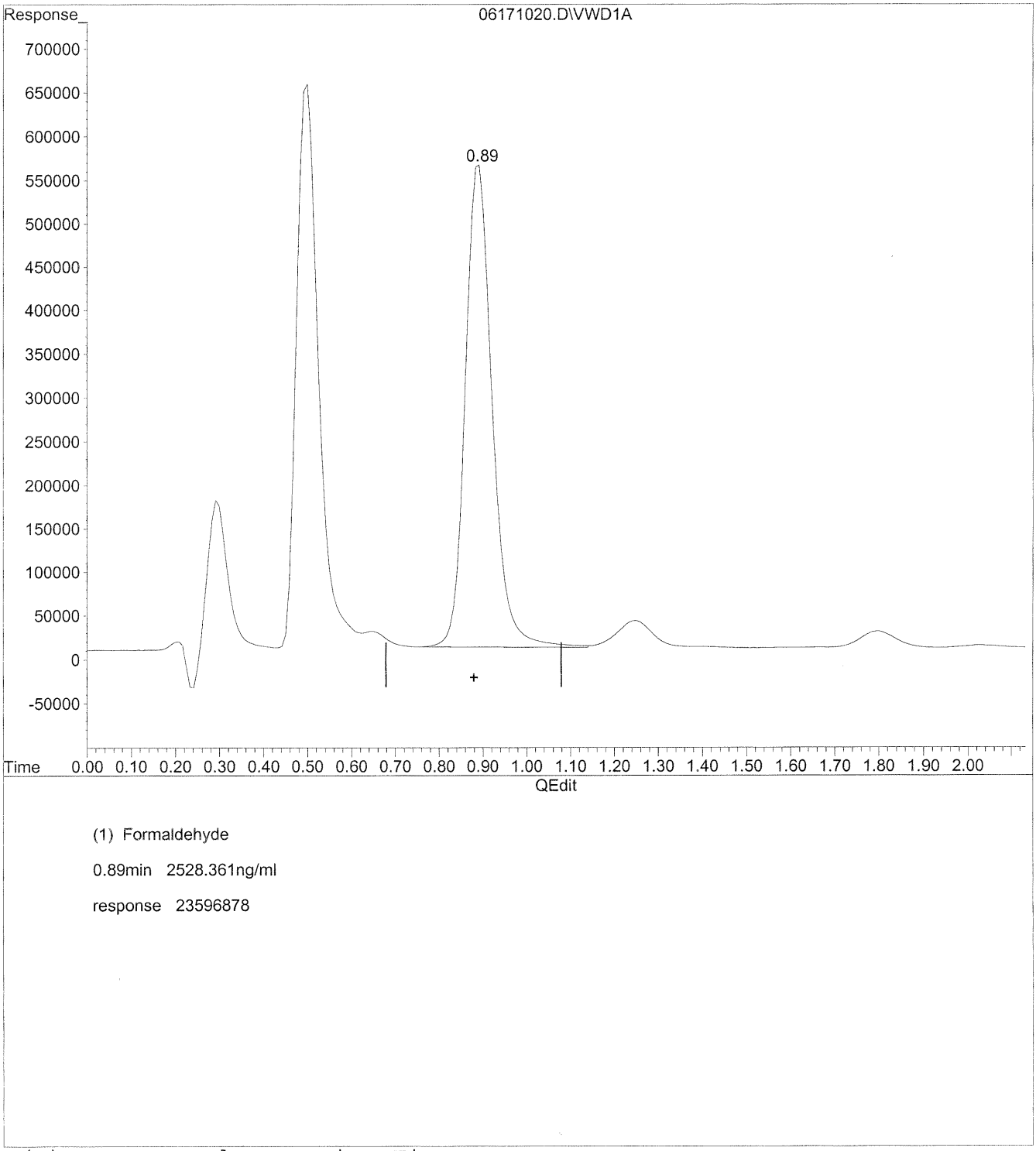
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	23596878	2528.361	ng/ml
2)	Acetaldehyde	1.25	1810824	268.859	ng/ml
3)	Propionaldehyde	2.28	266748	54.864	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.70	264604	65.670	ng/ml
6)	Benzaldehyde	4.57	351626	129.908	ng/ml
7)	Isovaleraldehyde	5.03	166180	46.842	ng/ml
8)	Valeraldehyde	5.30	383902	114.440	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.92	1179092	410.066	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.17	10446	5.429	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171020.D Vial: 116
Acq On : 17-Jun-2010, 12:53:35 Operator: HC/SM
Sample : P1001953-016 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:21 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(+) = Expected Retention Time
06171020.D TO110510.M Fri Jun 18 08:24:12 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **110988**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-017

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 20176 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**54**	**27**	0.10	**22**	0.082	
75-07-0	**Acetaldehyde**	**4.4**	**2.6**	0.12	**1.5**	0.066	
123-38-6	**Propionaldehyde**	**1.5**	**1.9**	0.25	**0.79**	0.11	
123-72-8	**Butyraldehyde**	**1.7**	**7.7**	0.90	**2.6**	0.31	
100-52-7	**Benzaldehyde**	**3.1**	**1.7**	0.11	**0.38**	0.025	
590-86-3	**Isovaleraldehyde**	**0.85**	**0.69**	0.16	**0.20**	0.046	
110-62-3	**Valeraldehyde**	**2.5**	**4.6**	0.37	**1.3**	0.10	
66-25-1	**n-Hexaldehyde**	**9.4**	**26**	0.55	**6.3**	0.13	

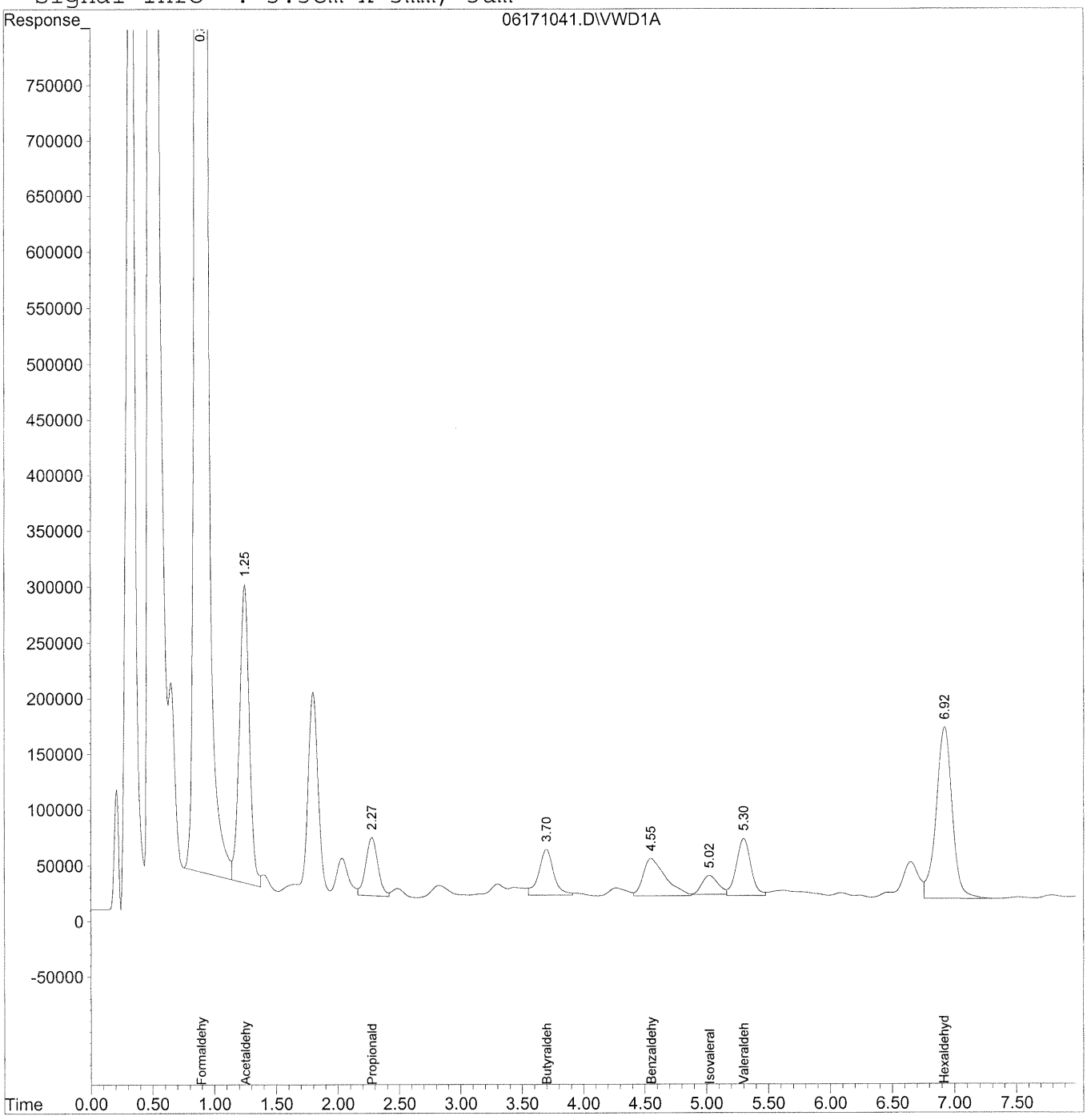
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Rc Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:31 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:31 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

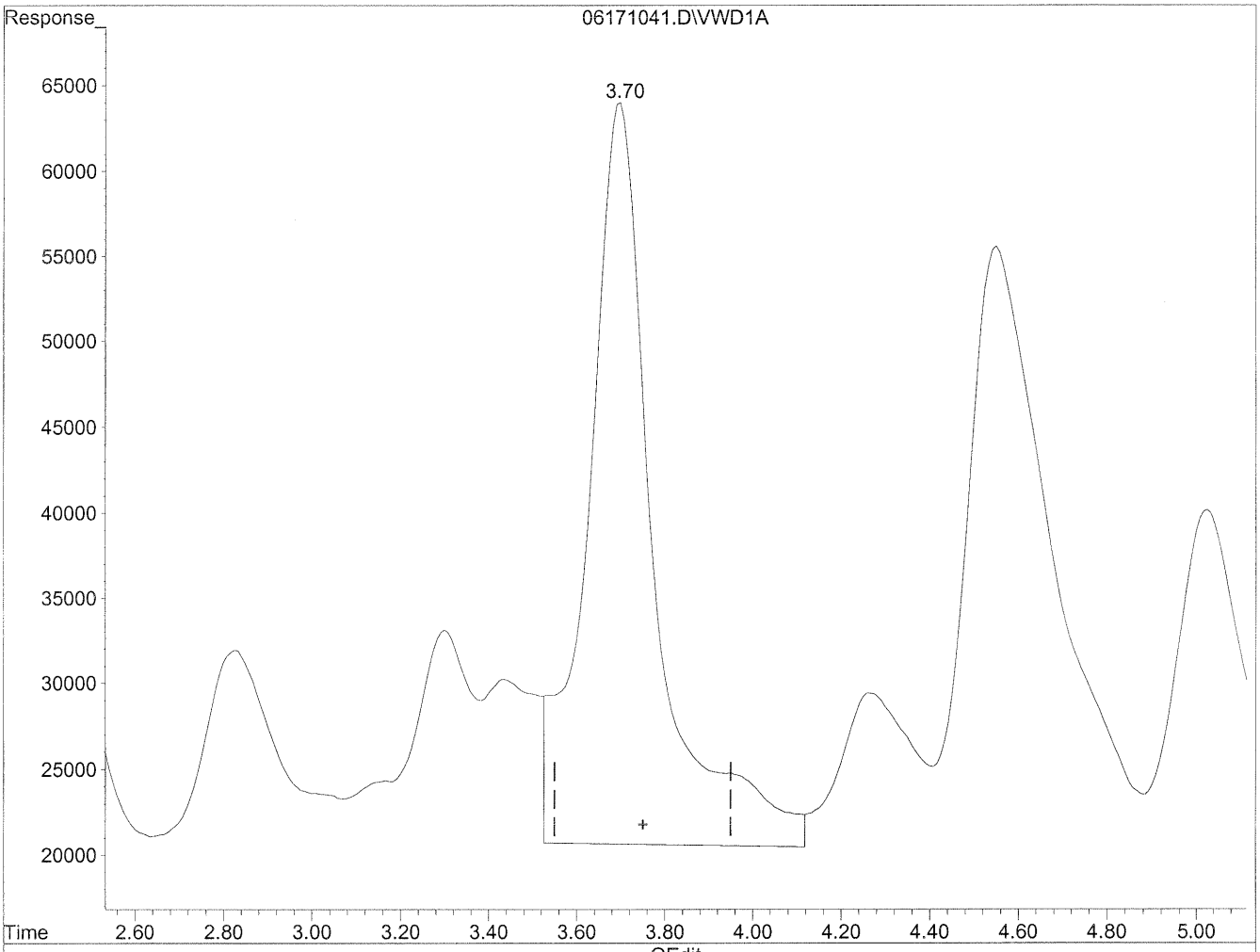
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	255631048	~~27390.387~~	~~ng/ml~~
2)	Acetaldehyde	1.25	14973742	2223.198	ng/ml
3)	Propionaldehyde	2.28	3599576	740.346	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.70	3428179	850.812	ng/mlm
6)	Benzaldehyde	4.55	4152983	1534.321	ng/mlm
7)	Isovaleraldehyde	5.02	1502485	423.509	ng/mlm
8)	Valeraldehyde	5.30	4160298	1240.172	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/mld
11)	Hexaldehyde	6.92	13545767	4710.960	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31:43 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.70min 1125.361ng/ml

response 4534423

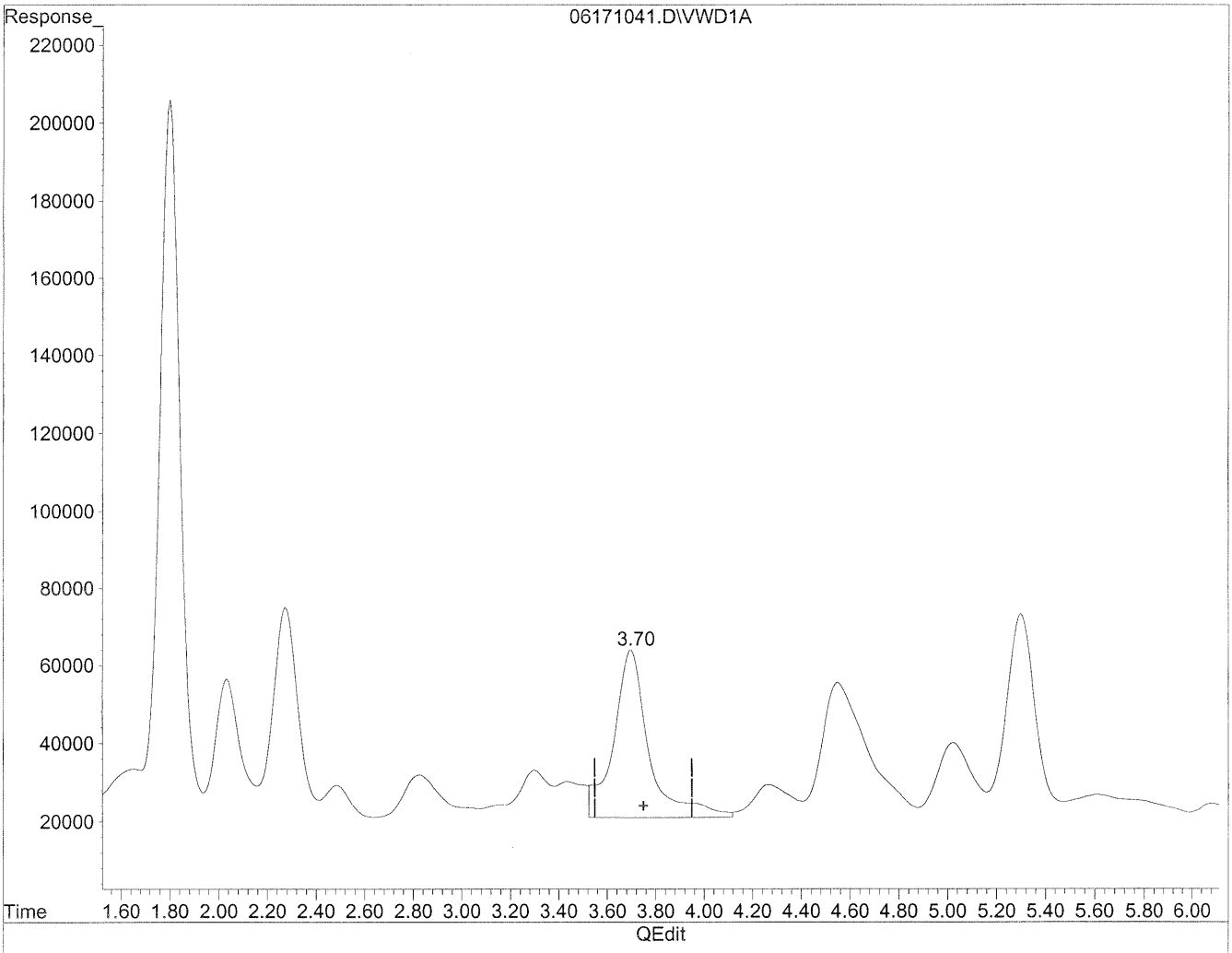
(+) = Expected Retention Time

06171041.D TO110510.M Fri Jun 18 09:23:27 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31:43 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.70min 1079.987ng/ml m

response 4351597

HC 6/18/10 BC, (MP) fixed BZ + removed sh. see next page. MP 6/21/10

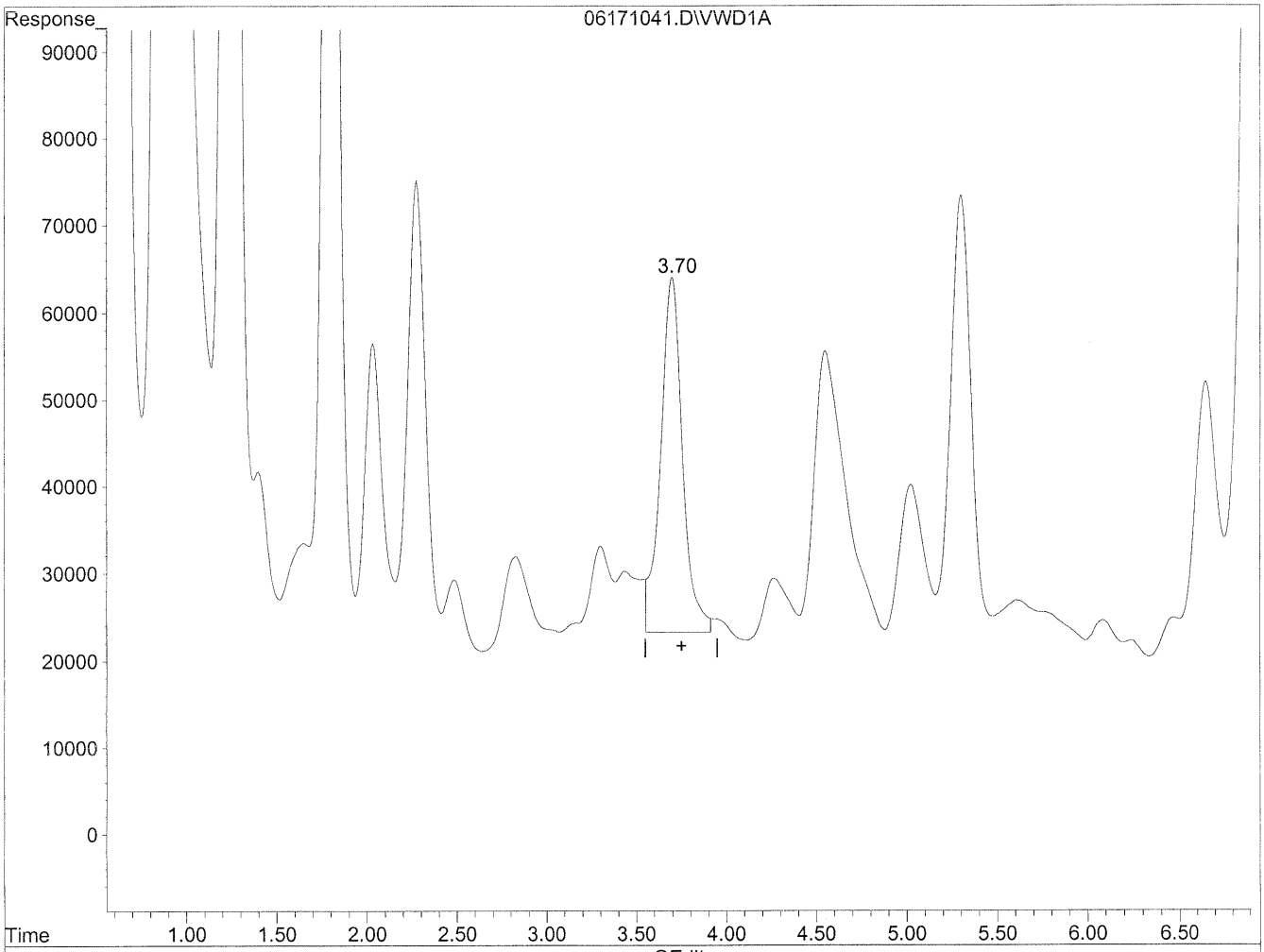
(+) = Expected Retention Time

06171041.D TO110510.M Fri Jun 18 09:29:32 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:31 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.70min 850.812ng/ml m

response 3428179

fixed pk + sh. 6/21/10

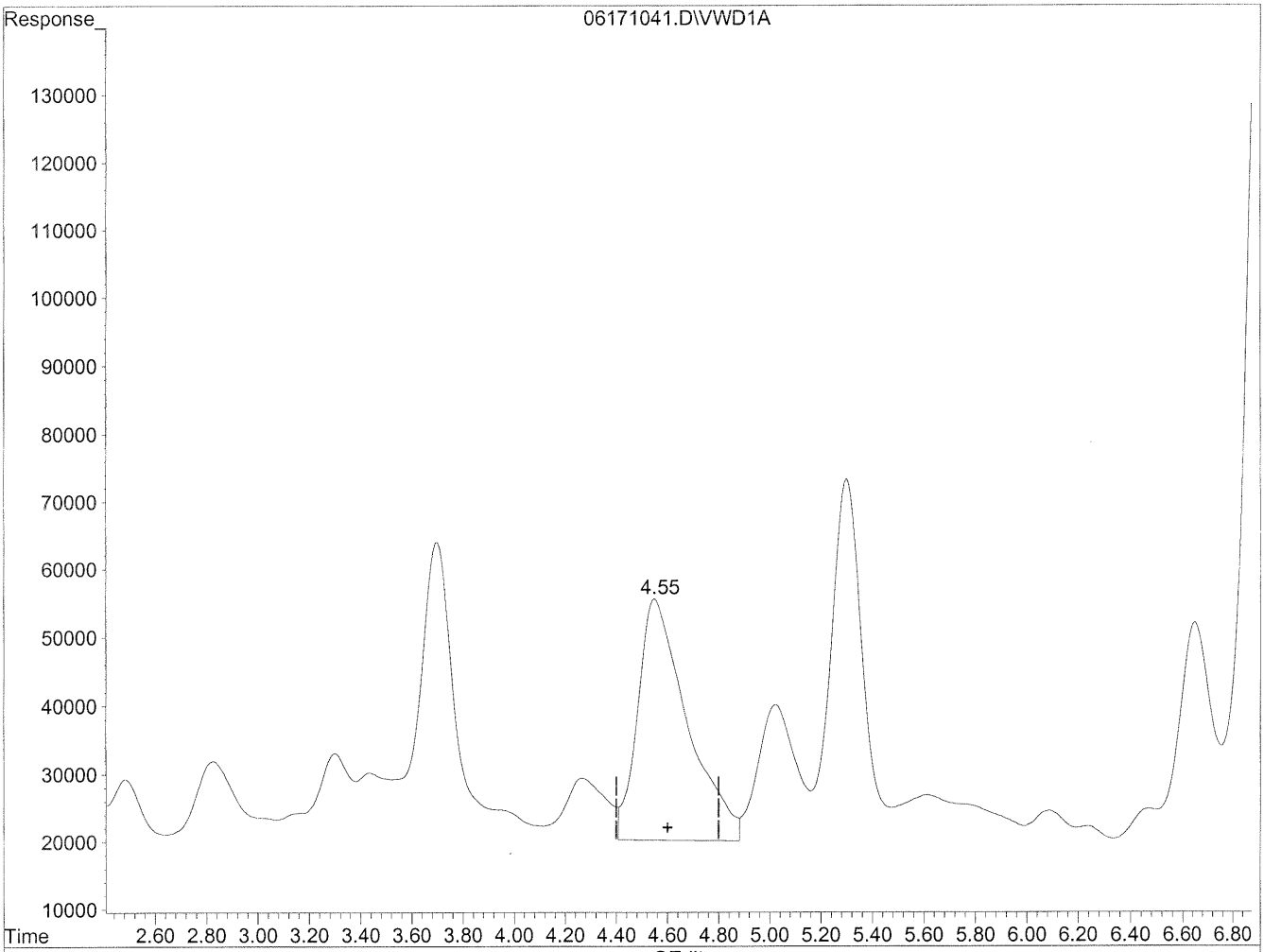
(+) = Expected Retention Time

06171041.D TO110510.M Mon Jun 21 11:31:40 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31:43 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.55min 1760.740ng/ml

response 4765836

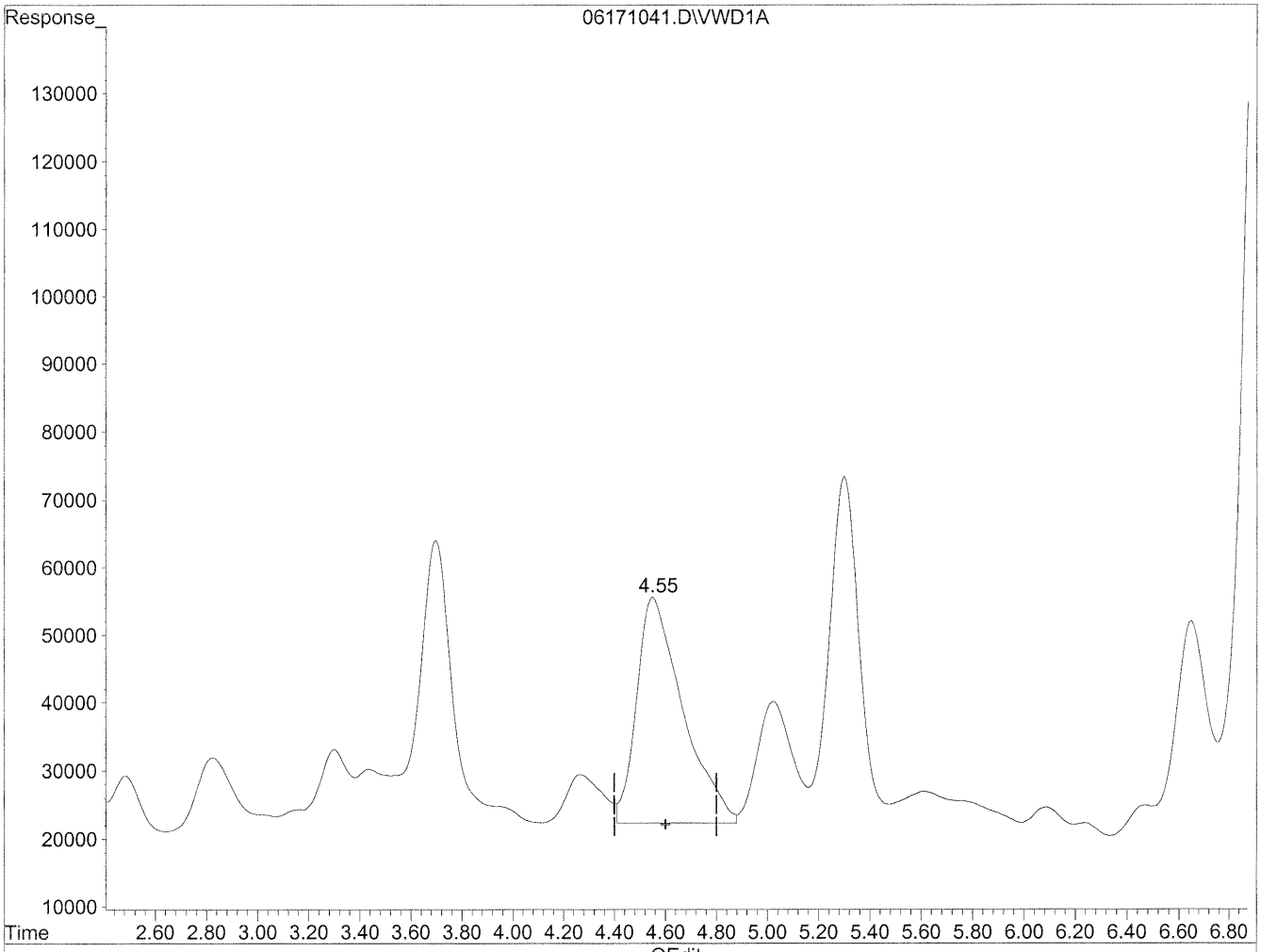
(+) = Expected Retention Time

06171041.D TO110510.M Fri Jun 18 09:31:56 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31:43 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.55min 1534.321ng/ml m

response 4152983

6/18/10 BC

6/21/10

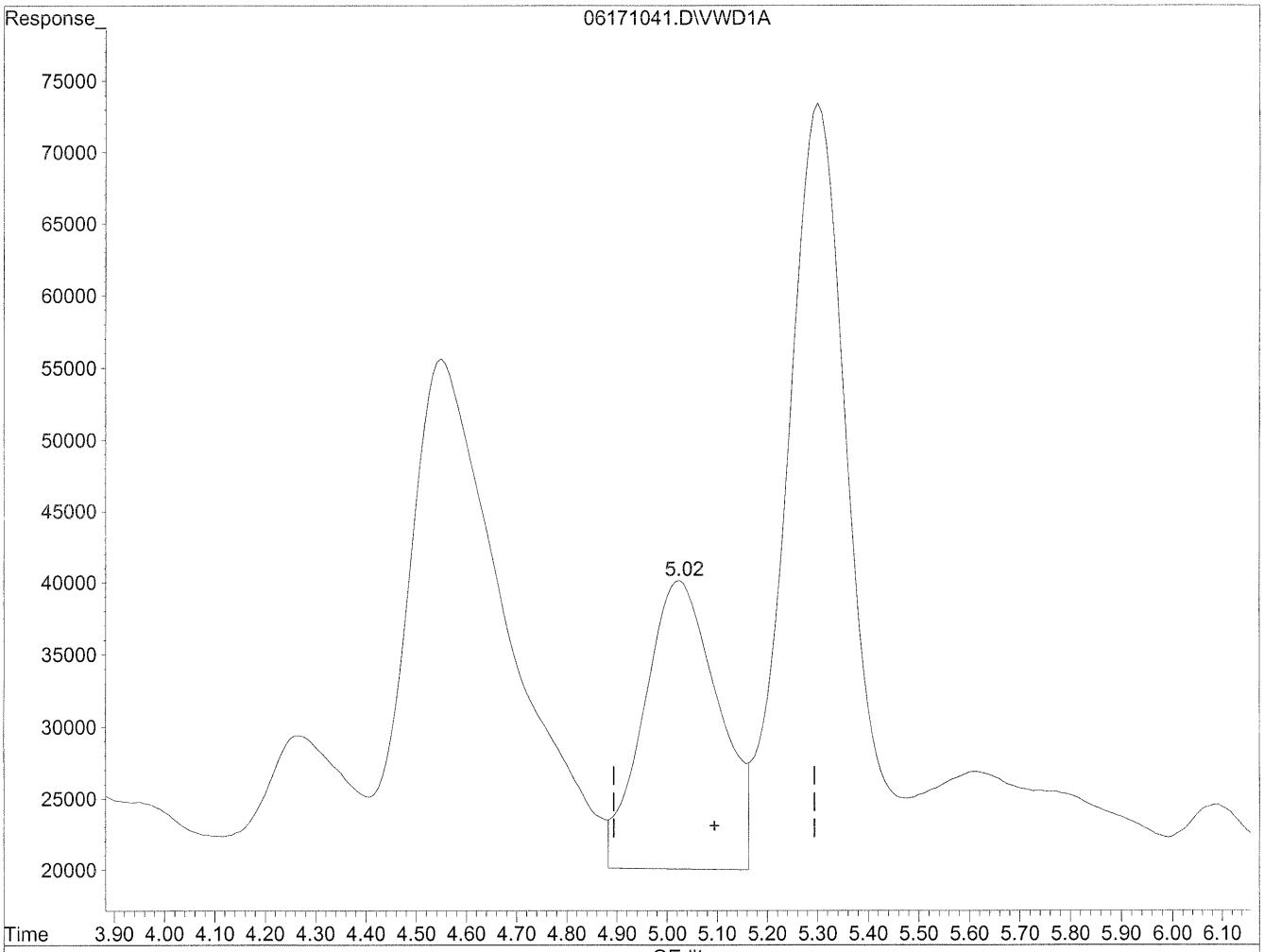
(+) = Expected Retention Time

06171041.D TO110510.M Fri Jun 18 09:32:09 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31:43 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.03min 582.130ng/ml

response 2065225

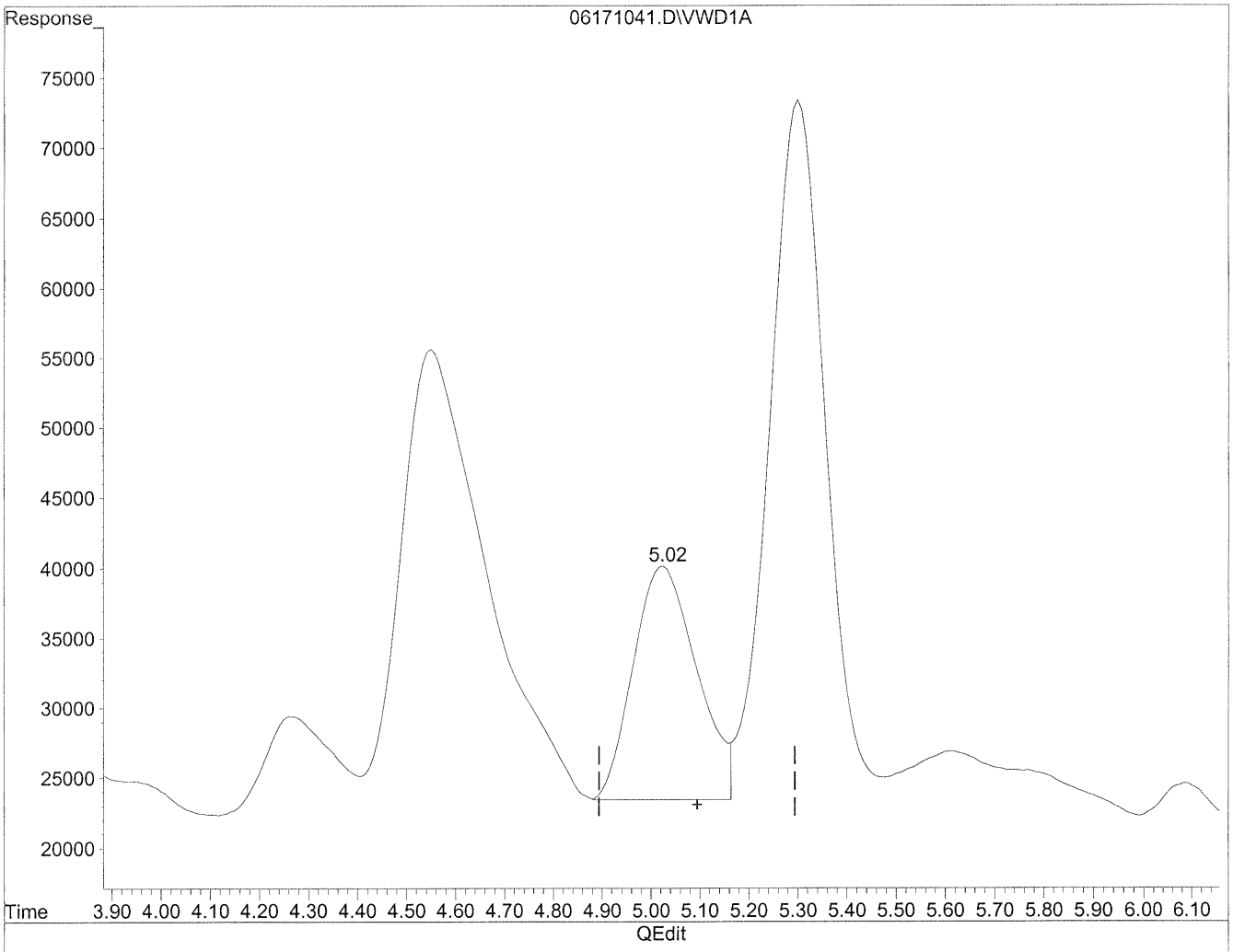
(+) = Expected Retention Time

06171041.D TO110510.M Fri Jun 18 09:32:13 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31:43 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.02min 423.509ng/ml m

response 1502485

HC 6/18/10

6/21/10

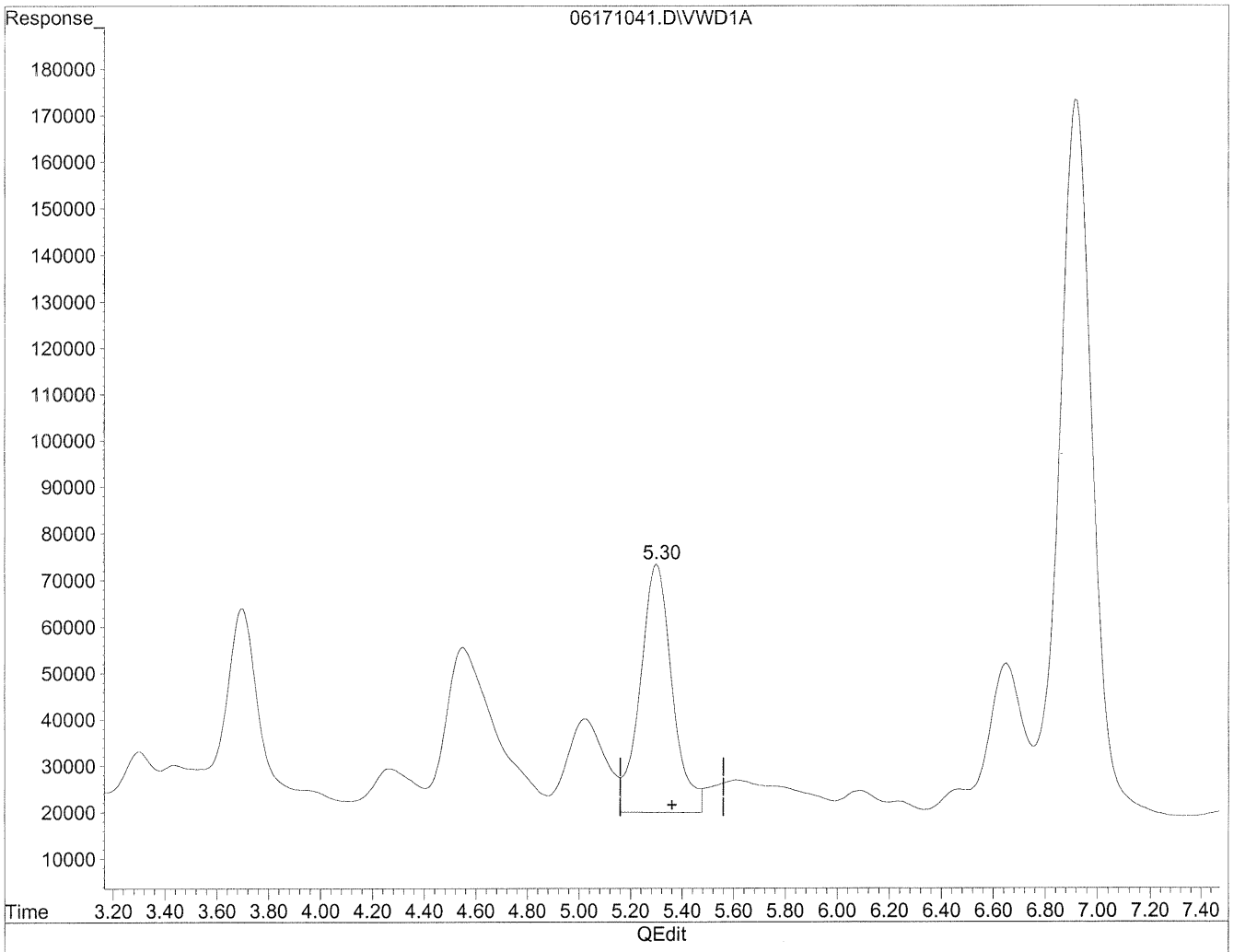
(+) = Expected Retention Time

06171041.D TO110510.M Fri Jun 18 09:32:21 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31:43 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.30min 1369.526ng/ml

response 4594231

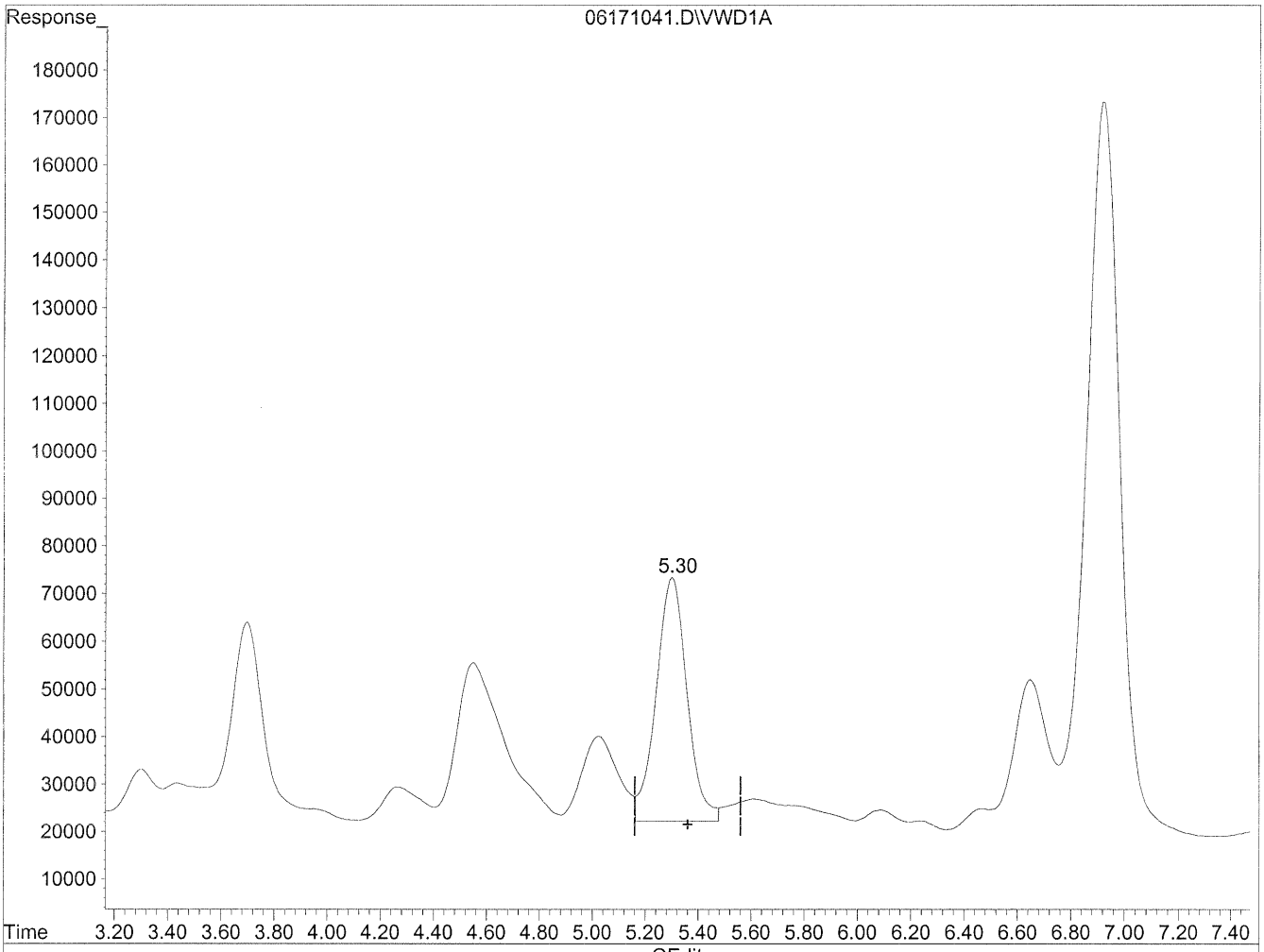
(+) = Expected Retention Time

06171041.D TO110510.M Fri Jun 18 09:32:27 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31:43 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



QEdit

(8) Valeraldehyde

5.30min 1240.172ng/ml m

response 4160298

HC 6/18/10

BC

6/21/10

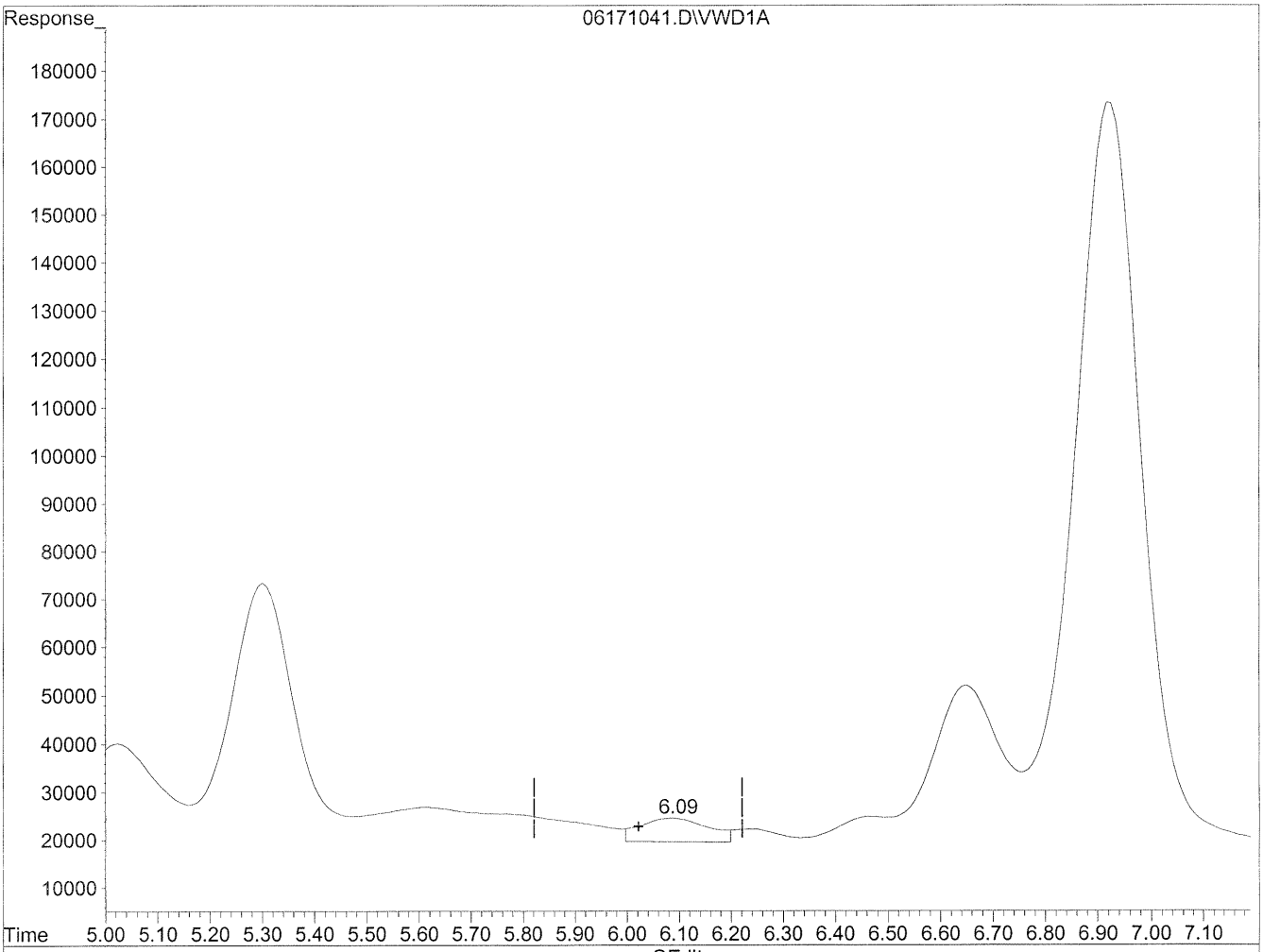
(+) = Expected Retention Time

06171041.D TO110510.M Fri Jun 18 09:32:46 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31:43 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

6.09min 192.952ng/ml

response 452010

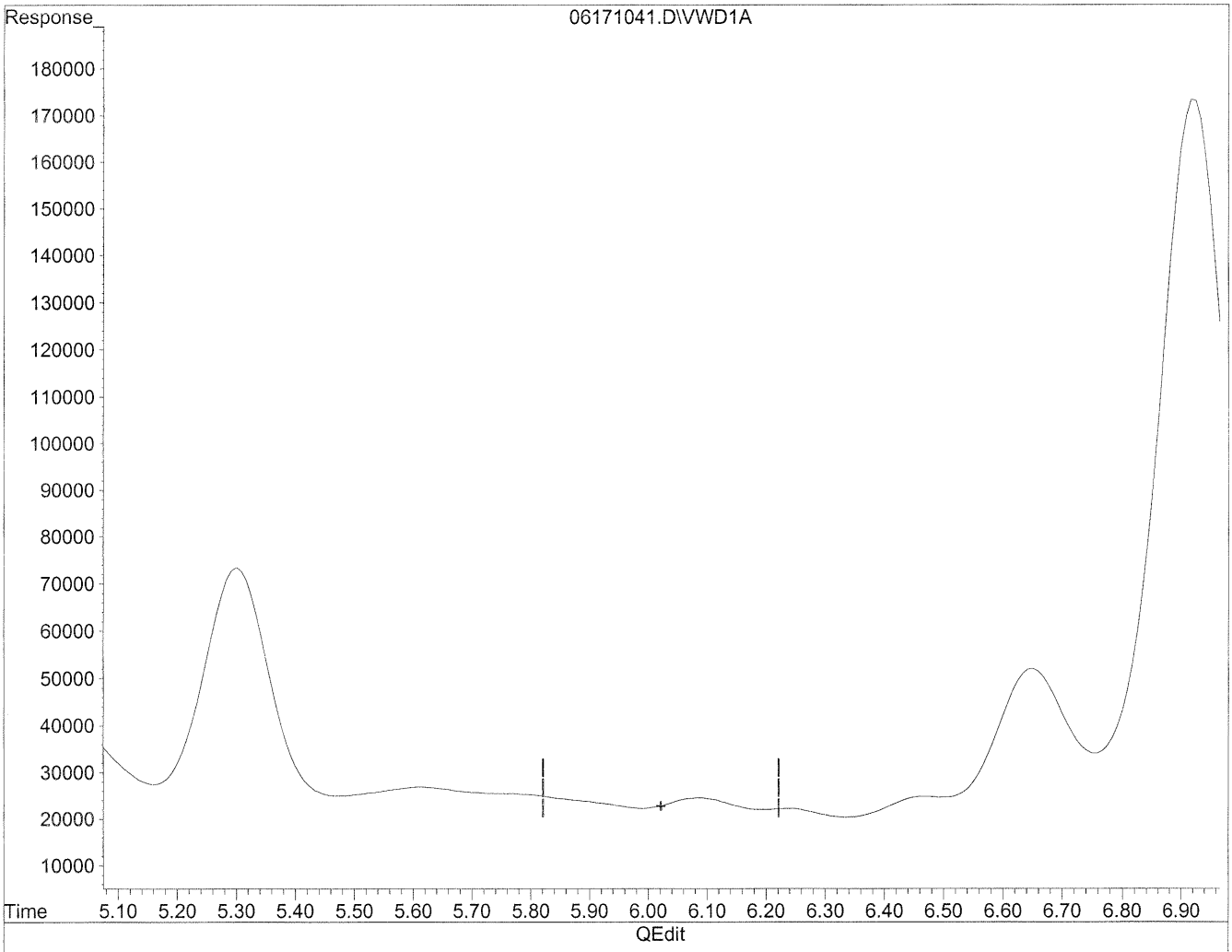
(+) = Expected Retention Time

06171041.D TO110510.M Fri Jun 18 09:32:58 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171041.D Vial: 131
Acq On : 17-Jun-2010, 16:31:43 Operator: HC/SM
Sample : P1001953-017 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

0.00min 0.000ng/ml d

response 0

HC 6/18/10 MP RT

MP 6/21/10

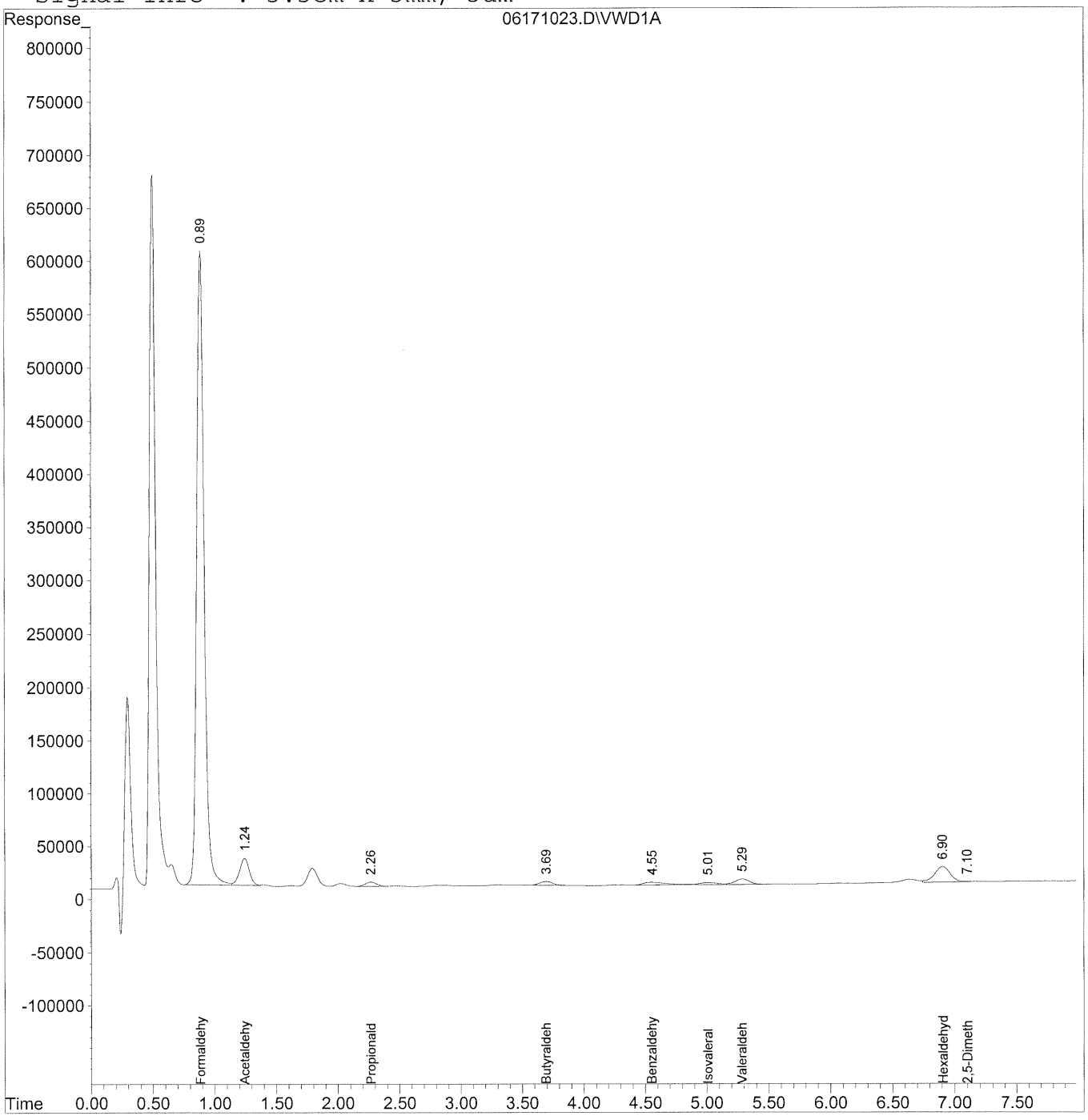
(+) = Expected Retention Time

06171041.D TO110510.M Fri Jun 18 09:33:01 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171023.D Vial: 117
Acq On : 17-Jun-2010, 13:24:02 Operator: HC/SM
Sample : P1001953-017 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:04 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171023.D Vial: 117
Acq On : 17-Jun-2010, 13:24:02 Operator: HC/SM
Sample : P1001953-017 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:04 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

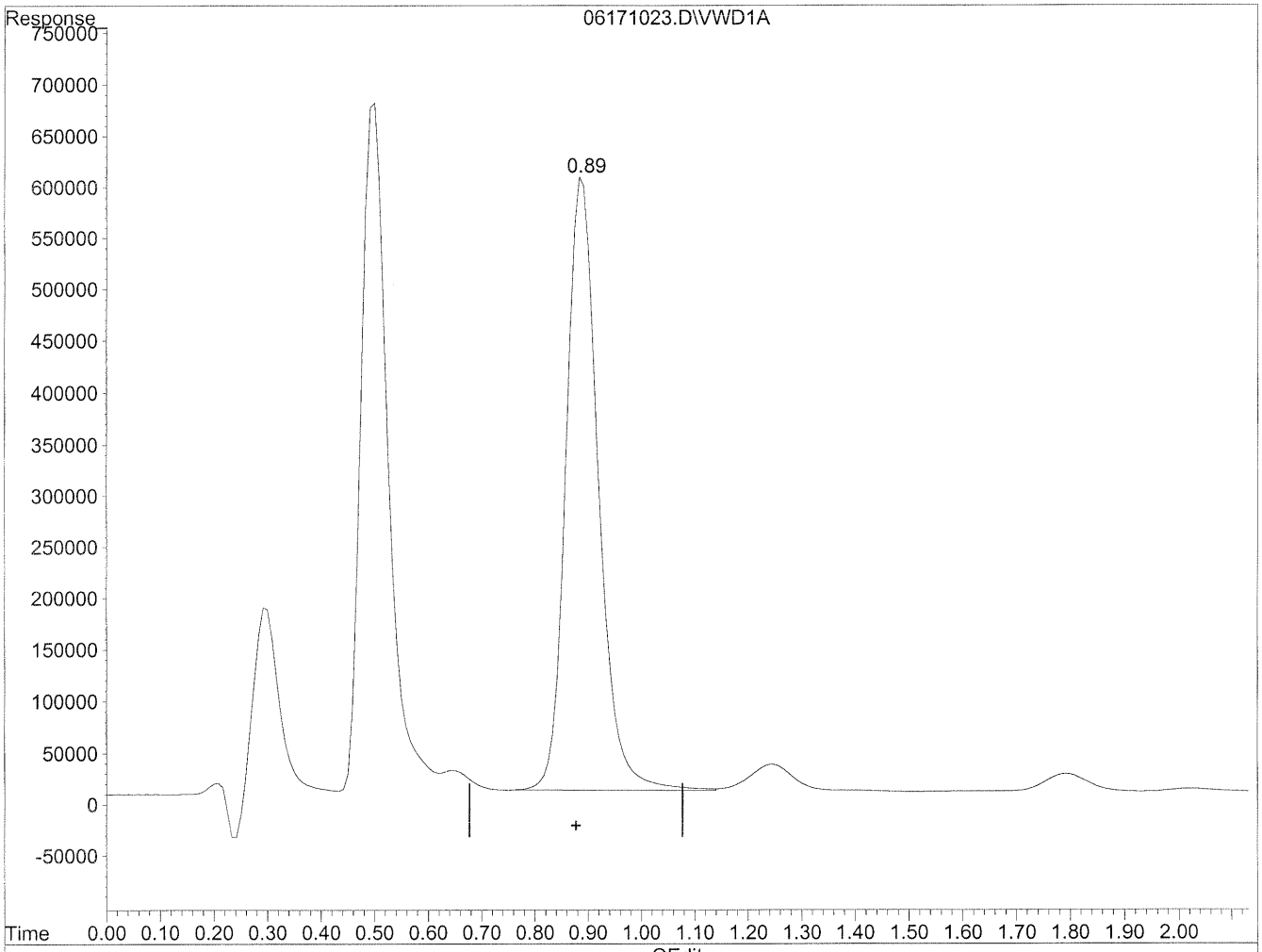
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	25195714	2699.673	ng/ml
2)	Acetaldehyde	1.25	1417479	210.458	ng/ml
3)	Propionaldehyde	2.27	249246	51.264	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.70	269002	66.761	ng/ml
6)	Benzaldehyde	4.56	318585	117.701	ng/ml
7)	Isovaleraldehyde	5.01	201311	56.744	ng/ml
8)	Valeraldehyde	5.29	406103	121.058	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.91	1263828	439.535	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.10	10502	5.458	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171023.D Vial: 117
Acq On : 17-Jun-2010, 13:24:02 Operator: HC/SM
Sample : P1001953-017 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:04 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 2699.673ng/ml

response 25195714

(+) = Expected Retention Time

06171023.D TO110510.M Fri Jun 18 08:24:52 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **110989**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-018

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 20176 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**2.8**	**1.4**	0.10	**1.1**	0.082	
75-07-0	**Acetaldehyde**	**0.69**	**0.41**	0.12	**0.22**	0.066	
123-38-6	Propionaldehyde	< 0.20	ND	0.25	ND	0.11	
123-72-8	**Butyraldehyde**	**0.29**	**1.3**	0.90	**0.44**	0.31	
100-52-7	Benzaldehyde	< 0.20	ND	0.11	ND	0.025	
590-86-3	**Isovaleraldehyde**	**0.32**	**0.26**	0.16	**0.074**	0.046	
110-62-3	Valeraldehyde	< 0.20	ND	0.37	ND	0.10	
66-25-1	**n-Hexaldehyde**	**0.26**	**0.72**	0.55	**0.18**	0.13	

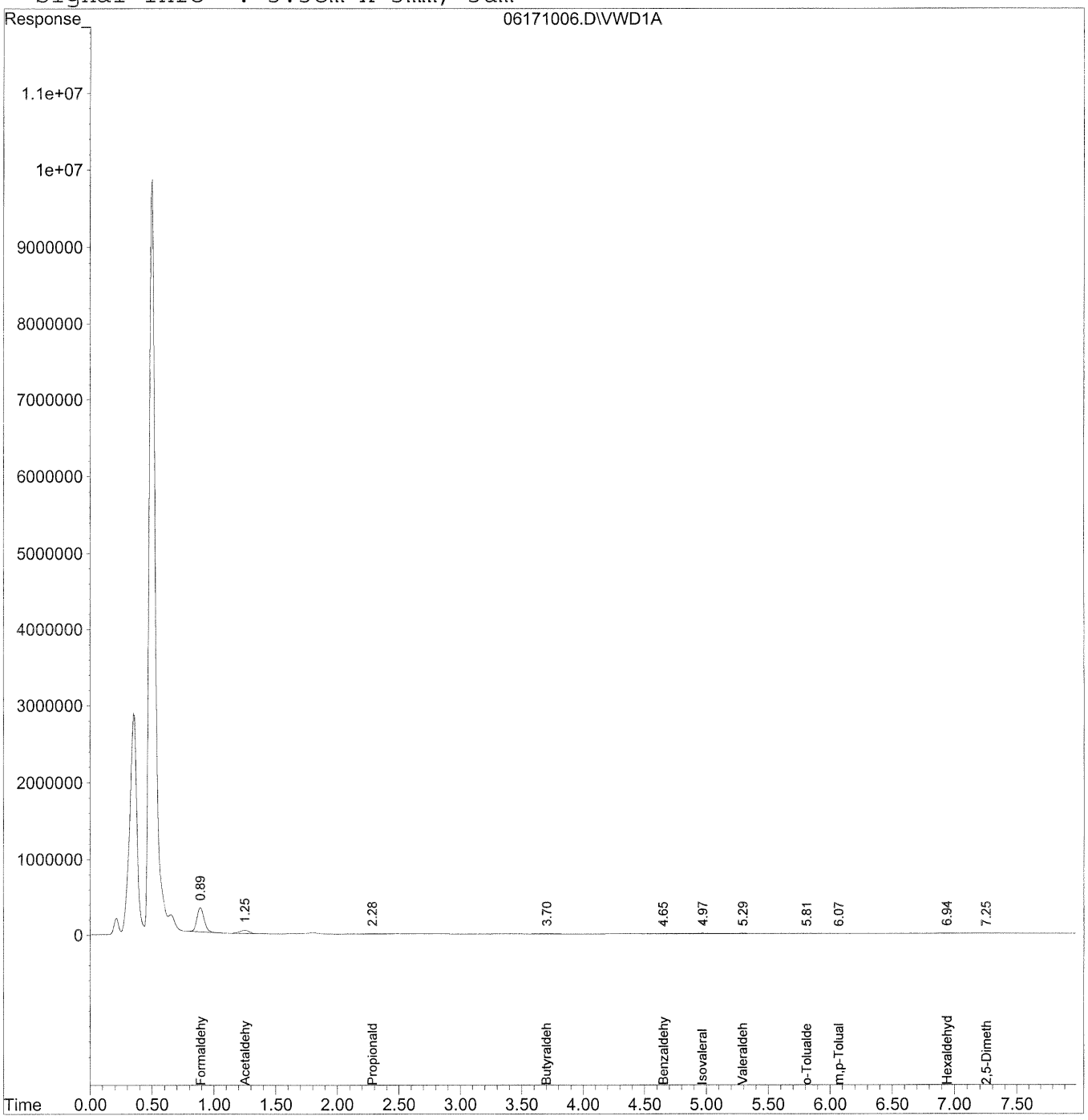
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Rc Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171006.D Vial: 104
Acq On : 17-Jun-2010, 10:26:33 Operator: HC/SM
Sample : P1001953-018 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:33 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171006.D Vial: 104
Acq On : 17-Jun-2010, 10:26:33 Operator: HC/SM
Sample : P1001953-018 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:33 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

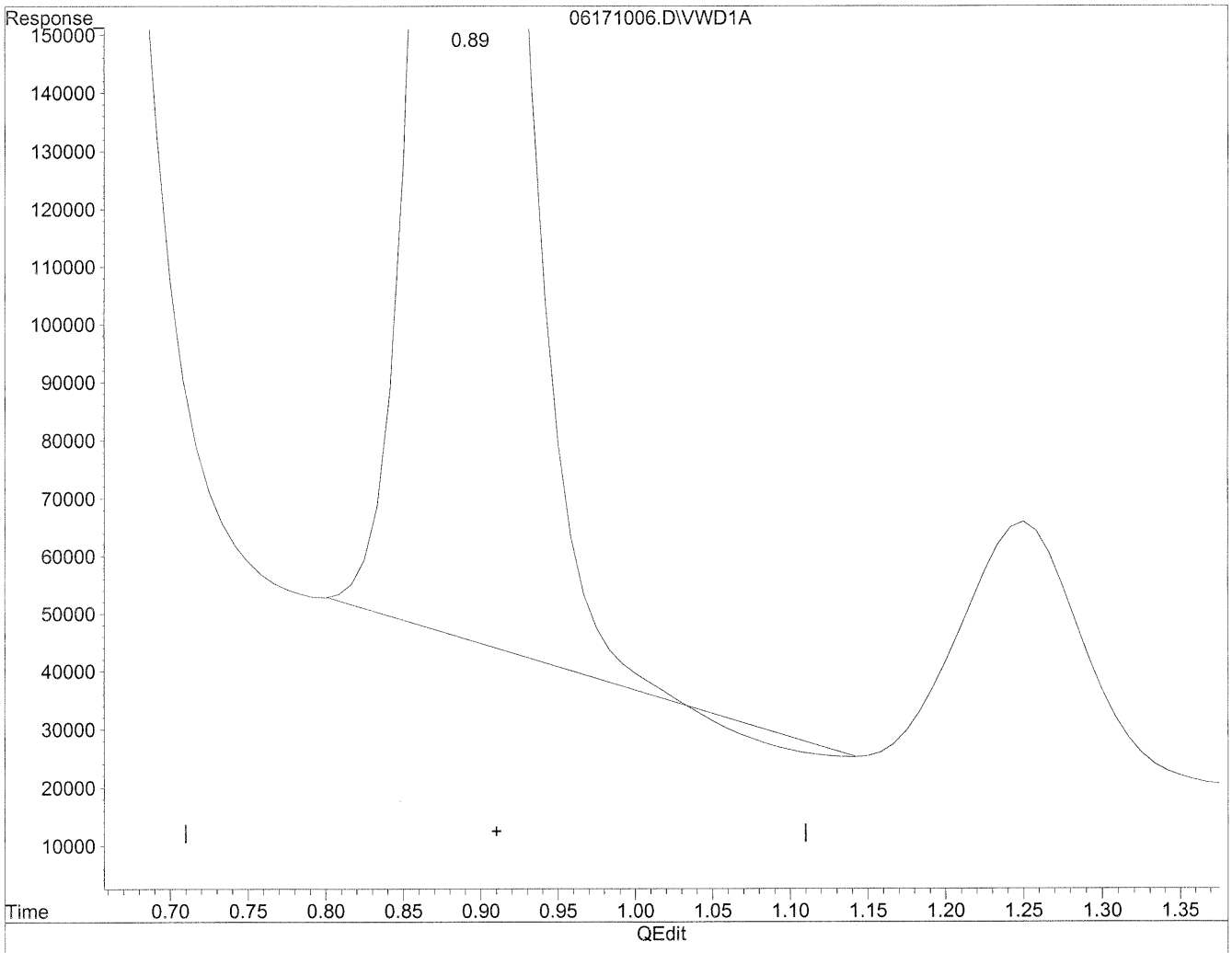
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	12933695	1385.821	ng/mlm
2)	Acetaldehyde	1.25	2312362	343.324	ng/mlm
3)	Propionaldehyde	2.29	367137	75.511	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.70	574923	142.686	ng/mlm
6)	Benzaldehyde	4.65	212450	78.490	ng/ml
7)	Isovaleraldehyde	4.97f	569644	160.567	ng/ml
8)	Valeraldehyde	5.30	323863	96.543	ng/ml
9)	o-Tolualdehyde	5.81	12195	5.991	ng/ml
10)	m,p-Tolualdehyde	6.07	43672	18.642	ng/ml
11)	Hexaldehyde	6.94	375158	130.473	ng/mlm
12)	2,5-Dimethylbenzaldehyde	7.25	7065	3.672	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171006.D Vial: 104
Acq On : 17-Jun-2010, 10:26:33 Operator: HC/SM
Sample : P1001953-018 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 1355.308ng/ml

response 12648922

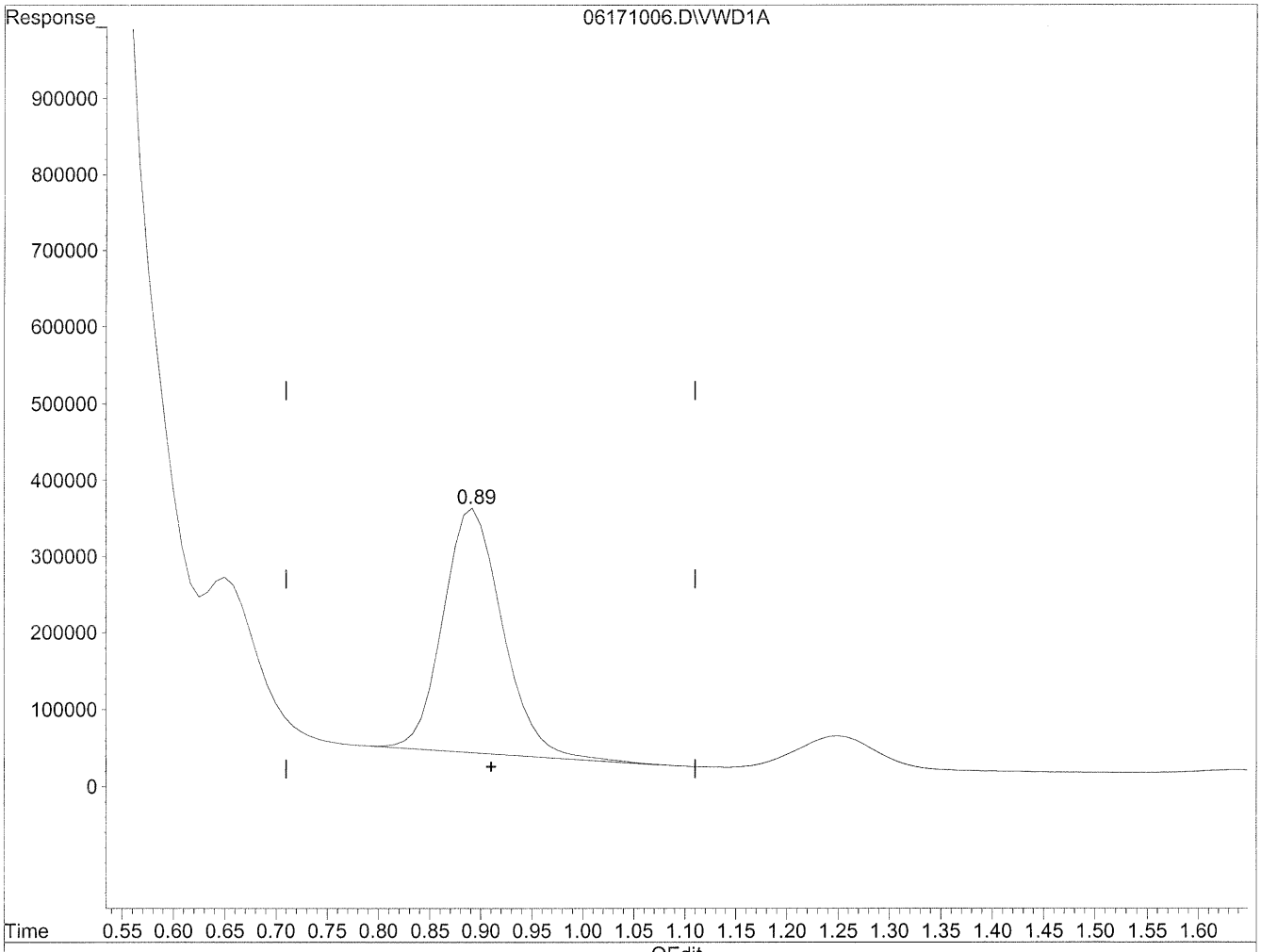
(+) = Expected Retention Time

06171006.D TO110510.M Thu Jun 17 16:32:15 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171006.D Vial: 104
Acq On : 17-Jun-2010, 10:26:33 Operator: HC/SM
Sample : P1001953-018 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 1385.821ng/ml m

response 12933695

HC 6/18/10

MW 6/21/10

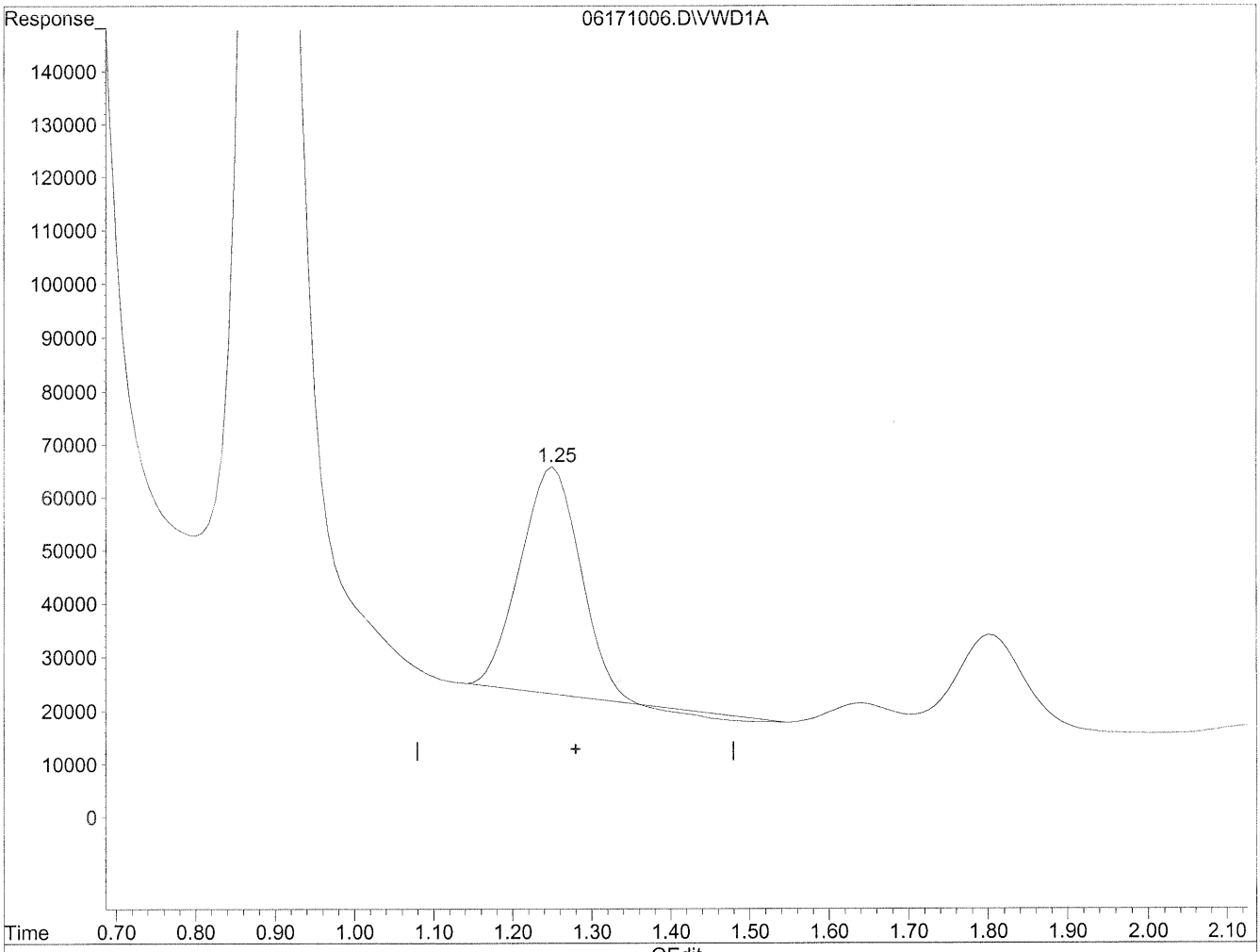
(+) = Expected Retention Time

06171006.D TO110510.M Thu Jun 17 16:32:28 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171006.D Vial: 104
Acq On : 17-Jun-2010, 10:26:33 Operator: HC/SM
Sample : P1001953-018 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.25min 327.238ng/ml

response 2204021

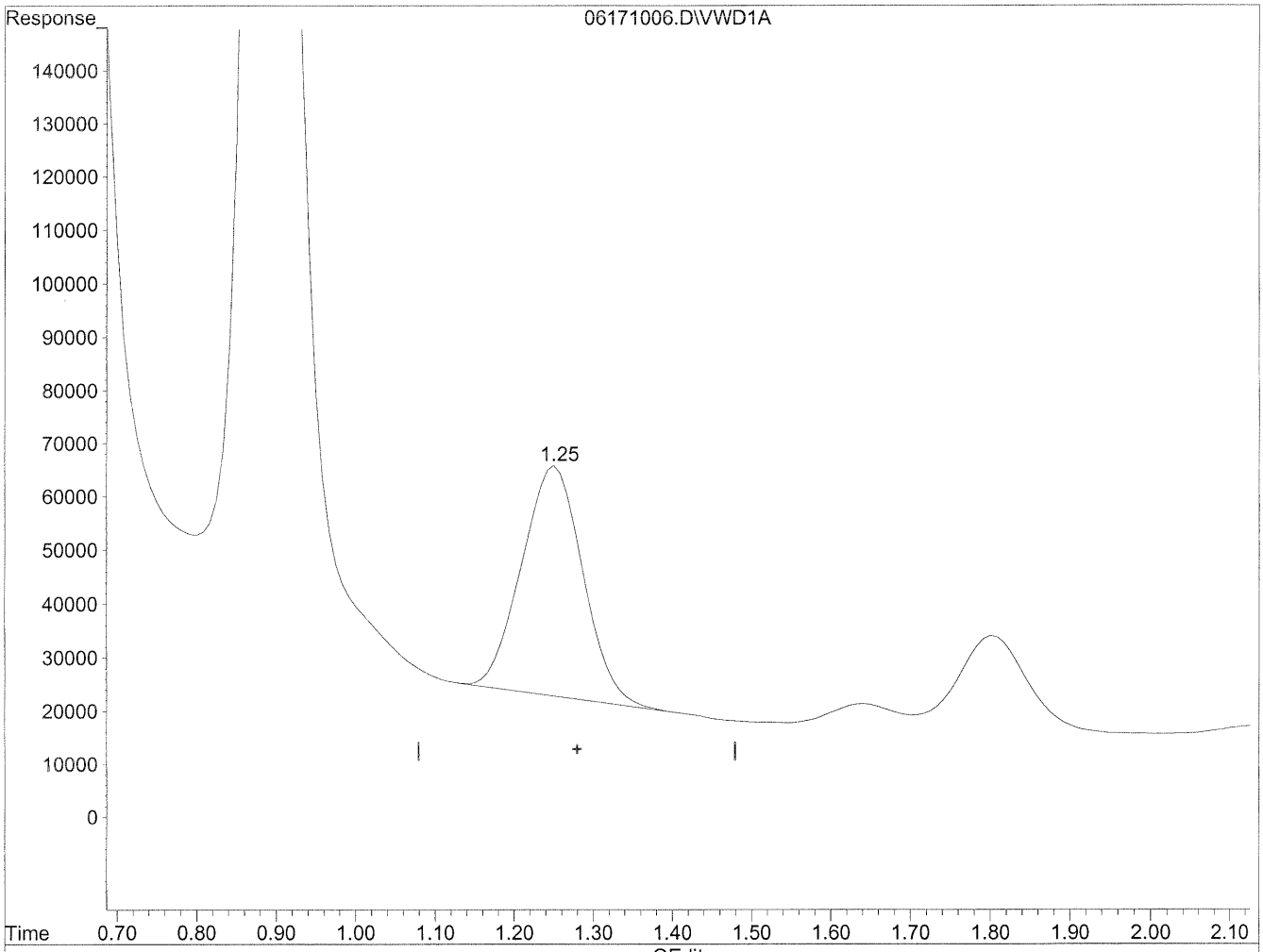
(+) = Expected Retention Time

06171006.D TO110510.M Thu Jun 17 16:32:34 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171006.D Vial: 104
Acq On : 17-Jun-2010, 10:26:33 Operator: HC/SM
Sample : P1001953-018 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.25min 343.324ng/ml m

response 2312362

HC 6/18/10

6/21/10 BC

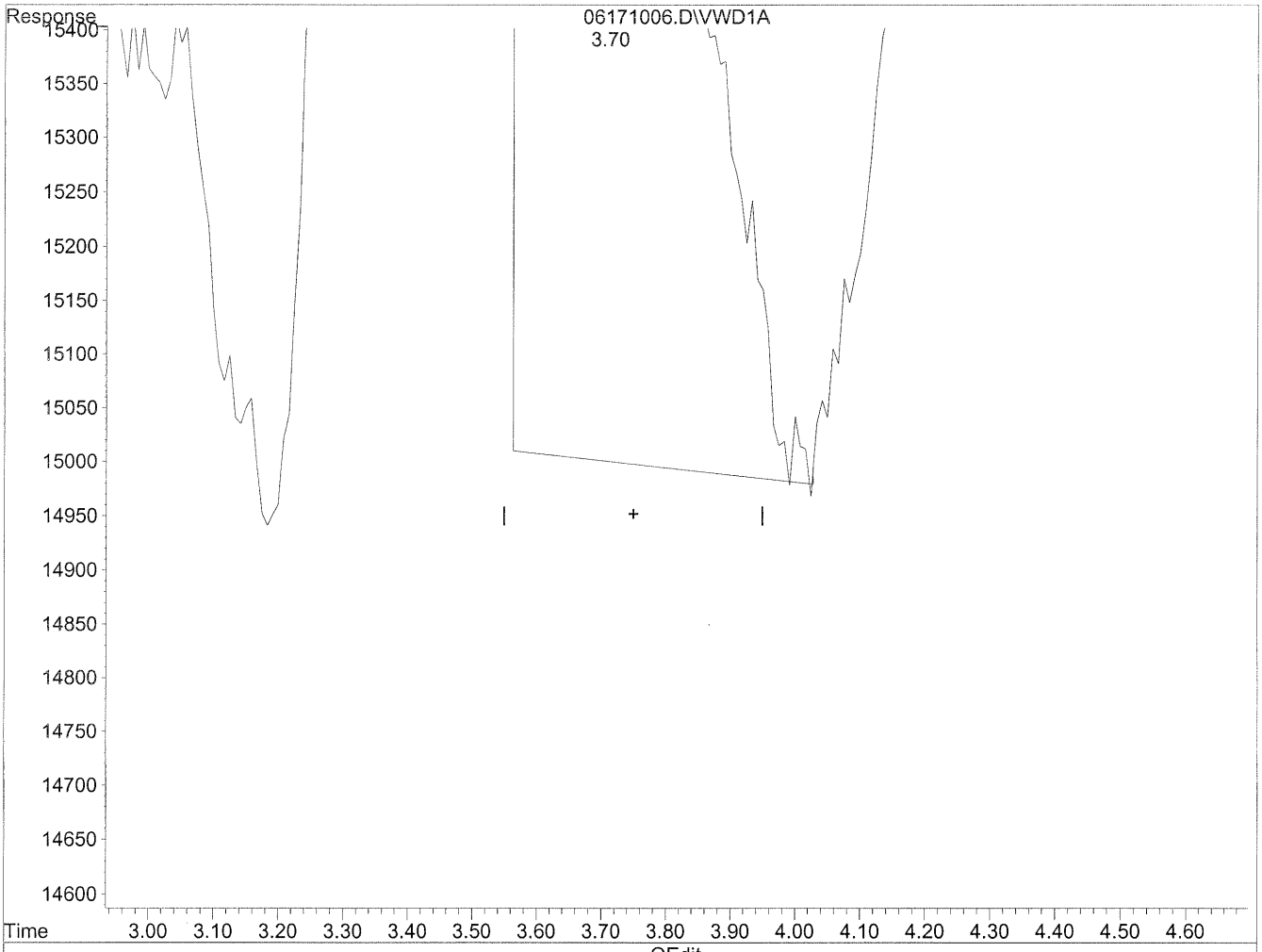
(+) = Expected Retention Time

06171006.D TO110510.M Thu Jun 17 16:32:43 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171006.D Vial: 104
Acq On : 17-Jun-2010, 10:26:33 Operator: HC/SM
Sample : P1001953-018 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



QEdit

(5) Butyraldehyde

3.71min 140.871ng/ml

response 567614

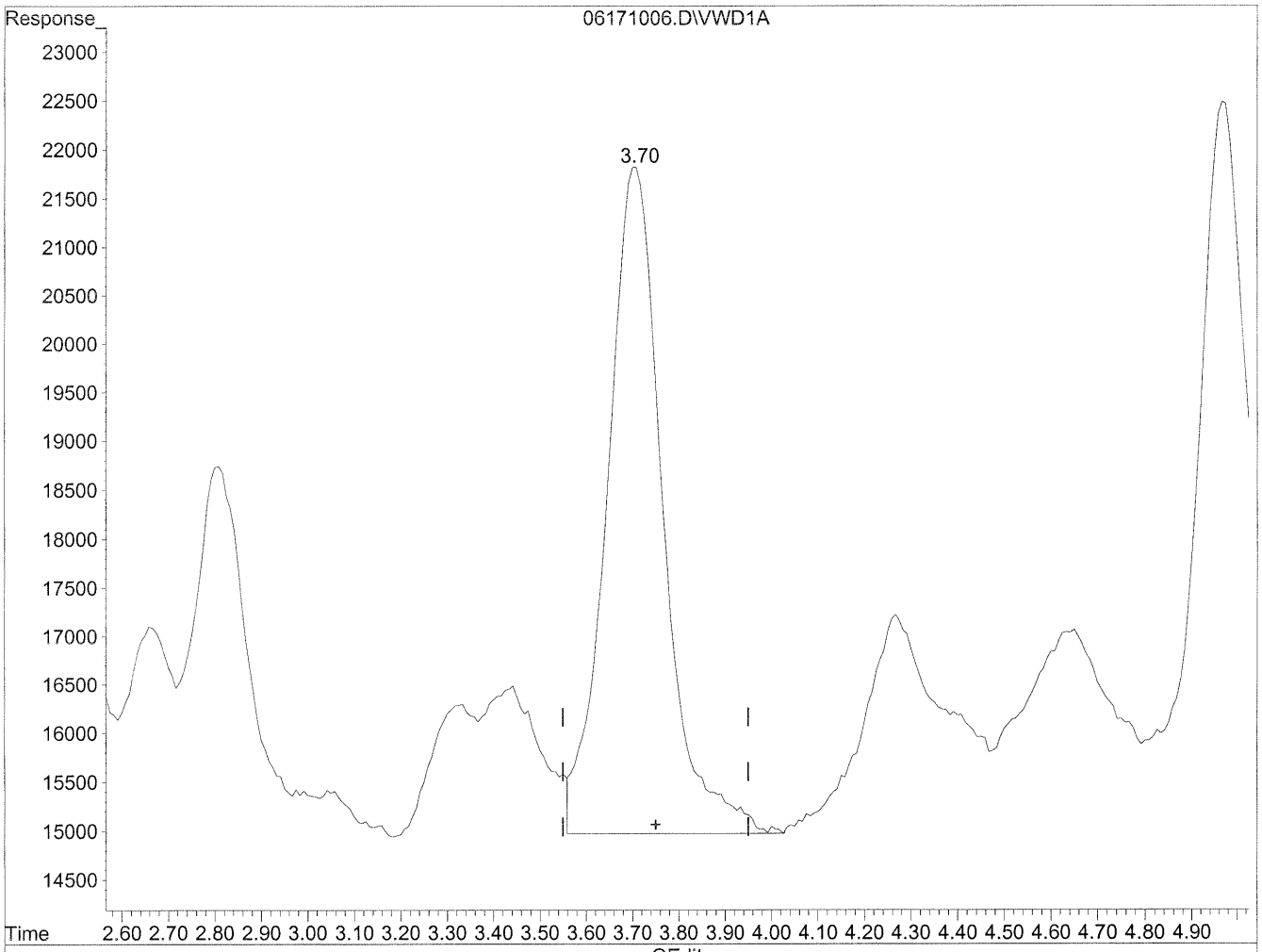
(+) = Expected Retention Time

06171006.D TO110510.M Thu Jun 17 16:32:53 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171006.D Vial: 104
Acq On : 17-Jun-2010, 10:26:33 Operator: HC/SM
Sample : P1001953-018 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.70min 142.686ng/ml m

response 574923

HC 6/18/10
BC

6/21/10

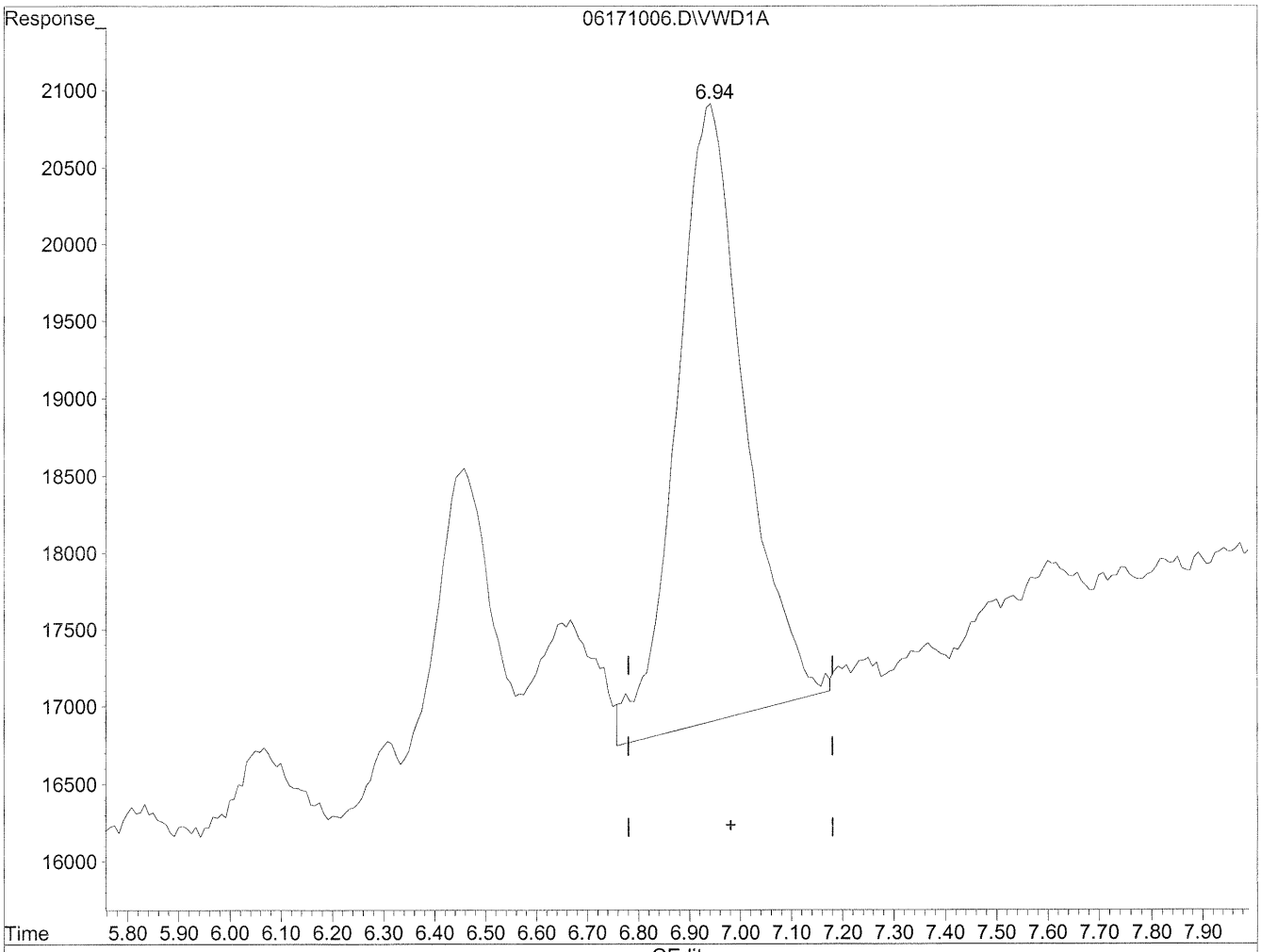
(+) = Expected Retention Time

06171006.D TO110510.M Thu Jun 17 16:33:03 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171006.D Vial: 104
Acq On : 17-Jun-2010, 10:26:33 Operator: HC/SM
Sample : P1001953-018 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.94min 129.749ng/ml

response 373077

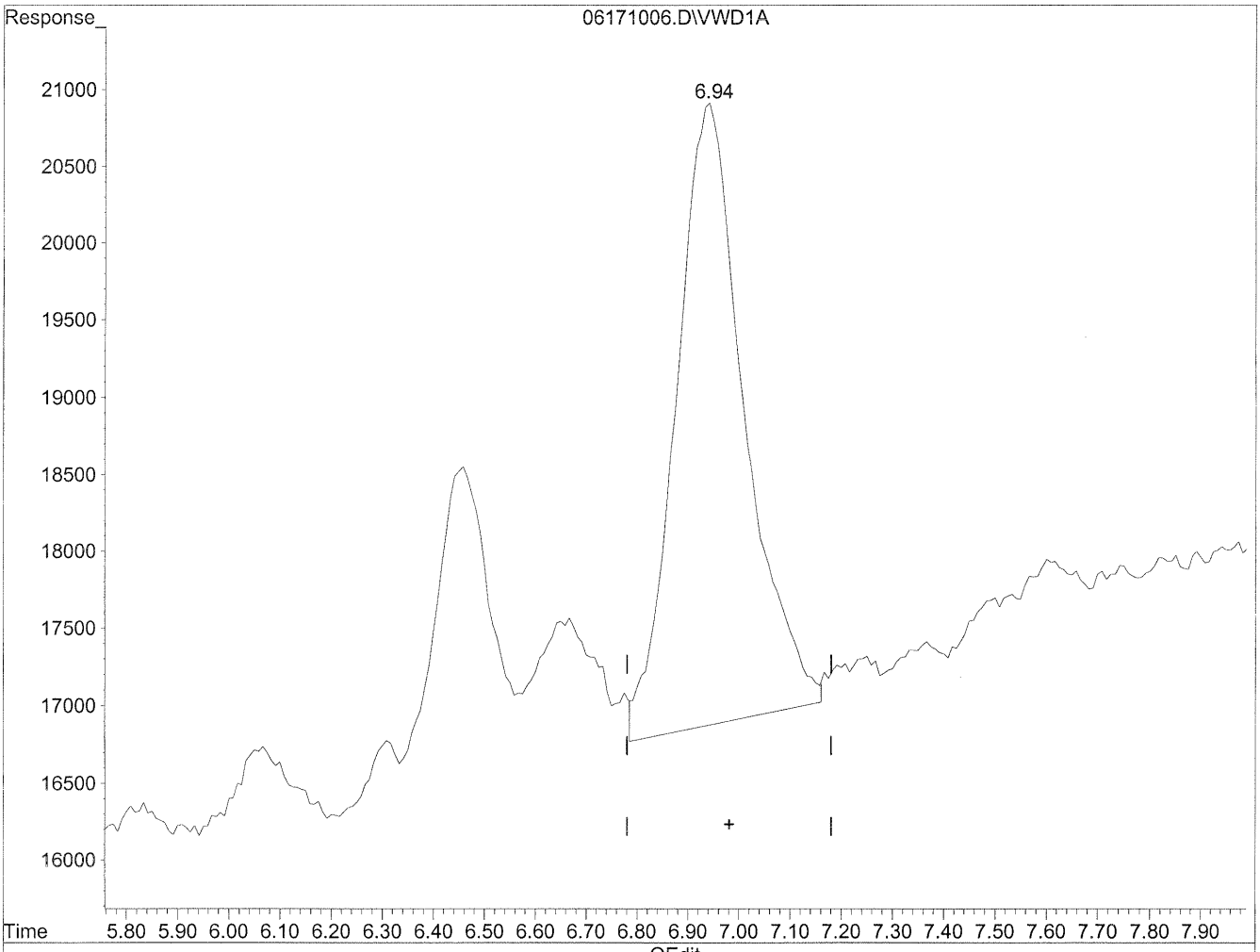
(+) = Expected Retention Time

06171006.D TO110510.M Thu Jun 17 16:33:18 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171006.D Vial: 104
Acq On : 17-Jun-2010, 10:26:33 Operator: HC/SM
Sample : P1001953-018 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.94min 130.473ng/ml m

response 375158

HC 6/18/10 BC

6/21/10

(+) = Expected Retention Time

06171006.D TO110510.M Thu Jun 17 16:33:29 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **110990**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-019

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/18/10
Desorption Volume: 2.0 ml
Sampling Time: NA Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**0.31**	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 0.20	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 0.20	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 0.20	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 0.20	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 0.20	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 0.20	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 0.20	NA	NA	NA	NA	

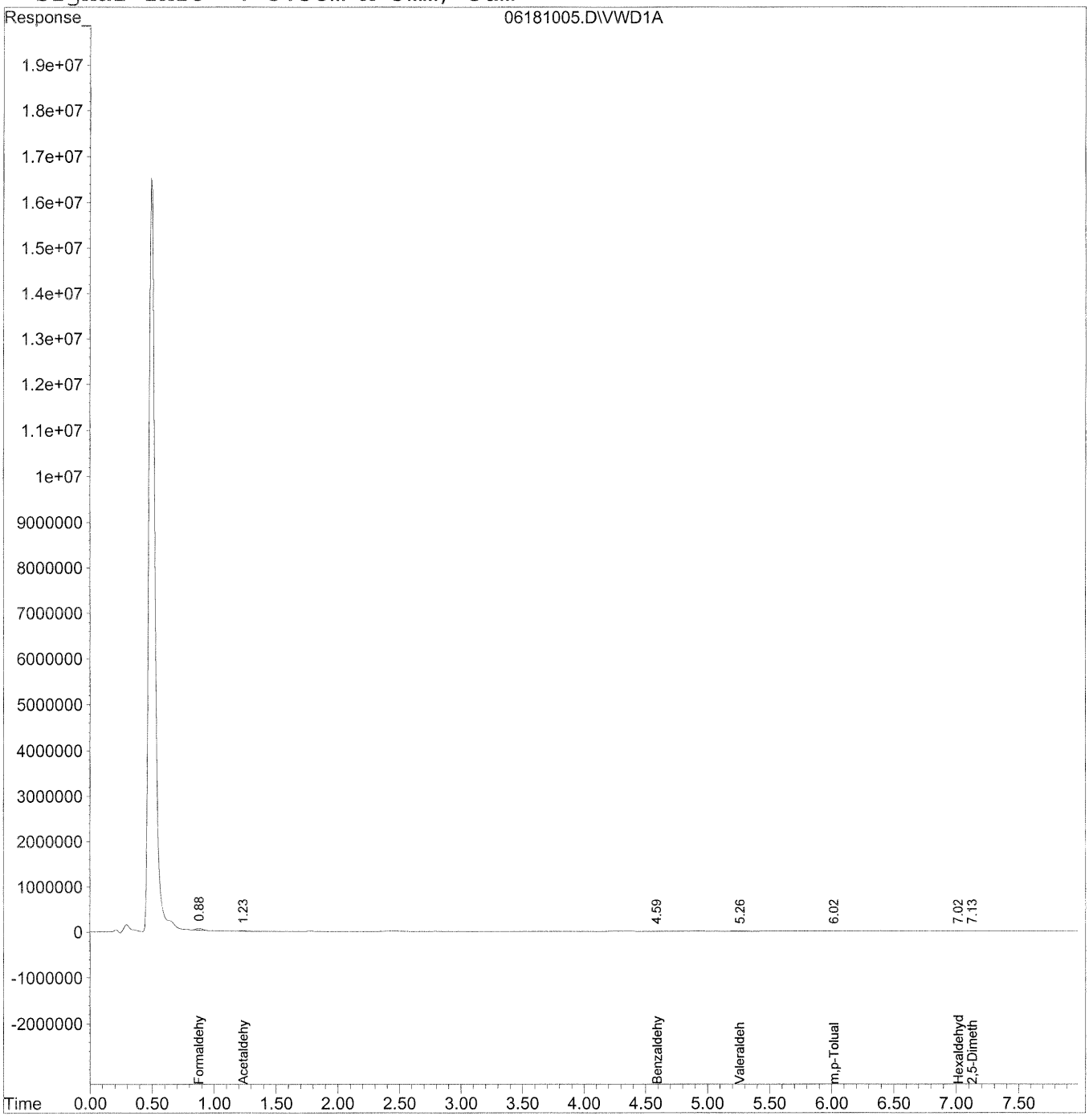
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: RG Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181005.D Vial: 102
Acq On : 18-Jun-2010, 09:49:19 Operator: HC/SM
Sample : P1001953-019 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:23 2010 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181005.D Vial: 102
Acq On : 18-Jun-2010, 09:49:19 Operator: HC/SM
Sample : P1001953-019 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:23 2010 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

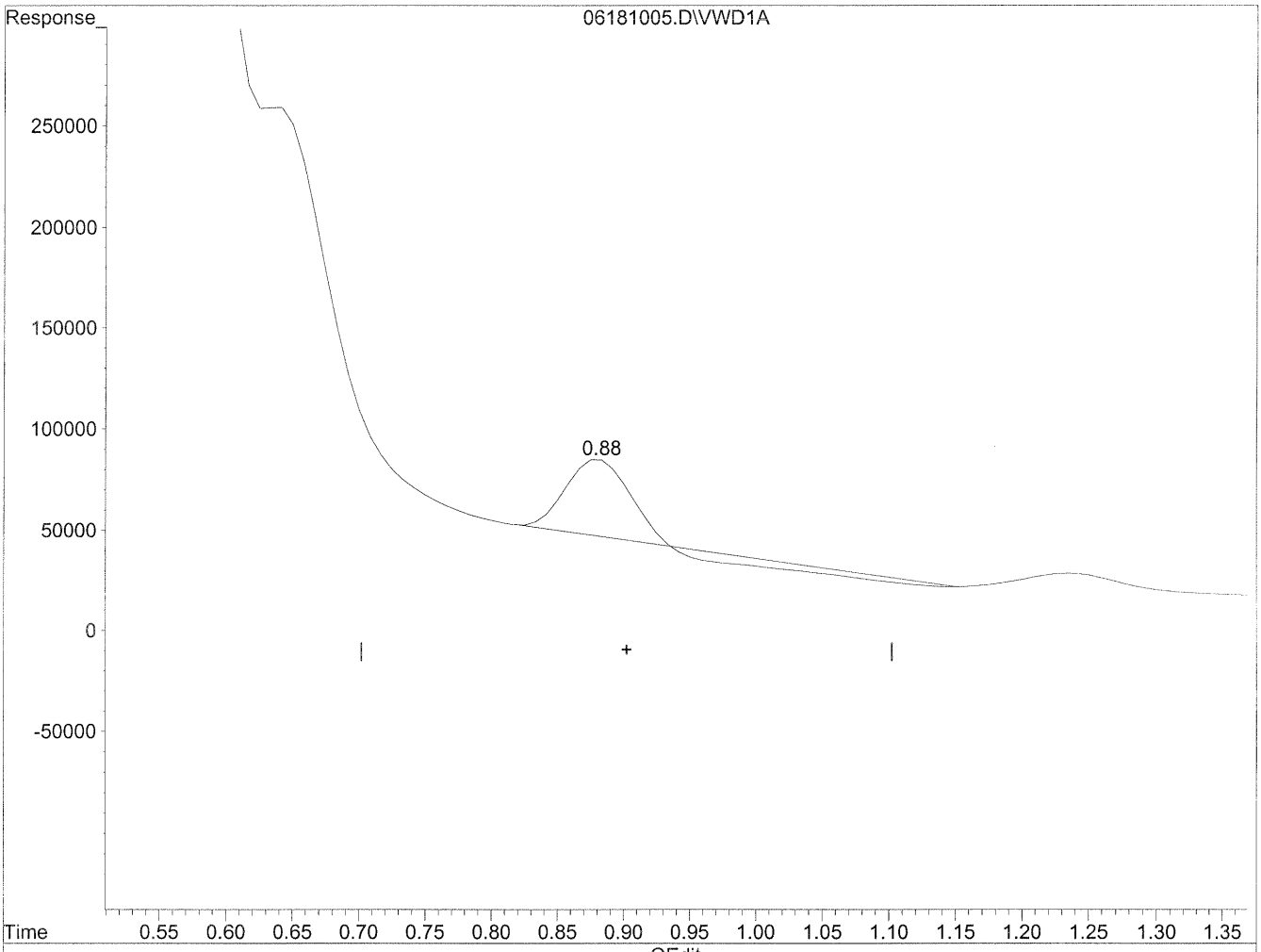
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	1448227	155.175	ng/mlm
2)	Acetaldehyde	1.23	416125	61.783	ng/mlm
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	4.59	11143	4.117	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	5.27	34758	10.361	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	6.02	72671	31.022	ng/ml
11)	Hexaldehyde	7.02	18605	6.470	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.13	8054	4.186	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181005.D Vial: 102
Acq On : 18-Jun-2010, 09:49:19 Operator: HC/SM
Sample : P1001953-019 Re Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:22 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.88min 104.422ng/ml

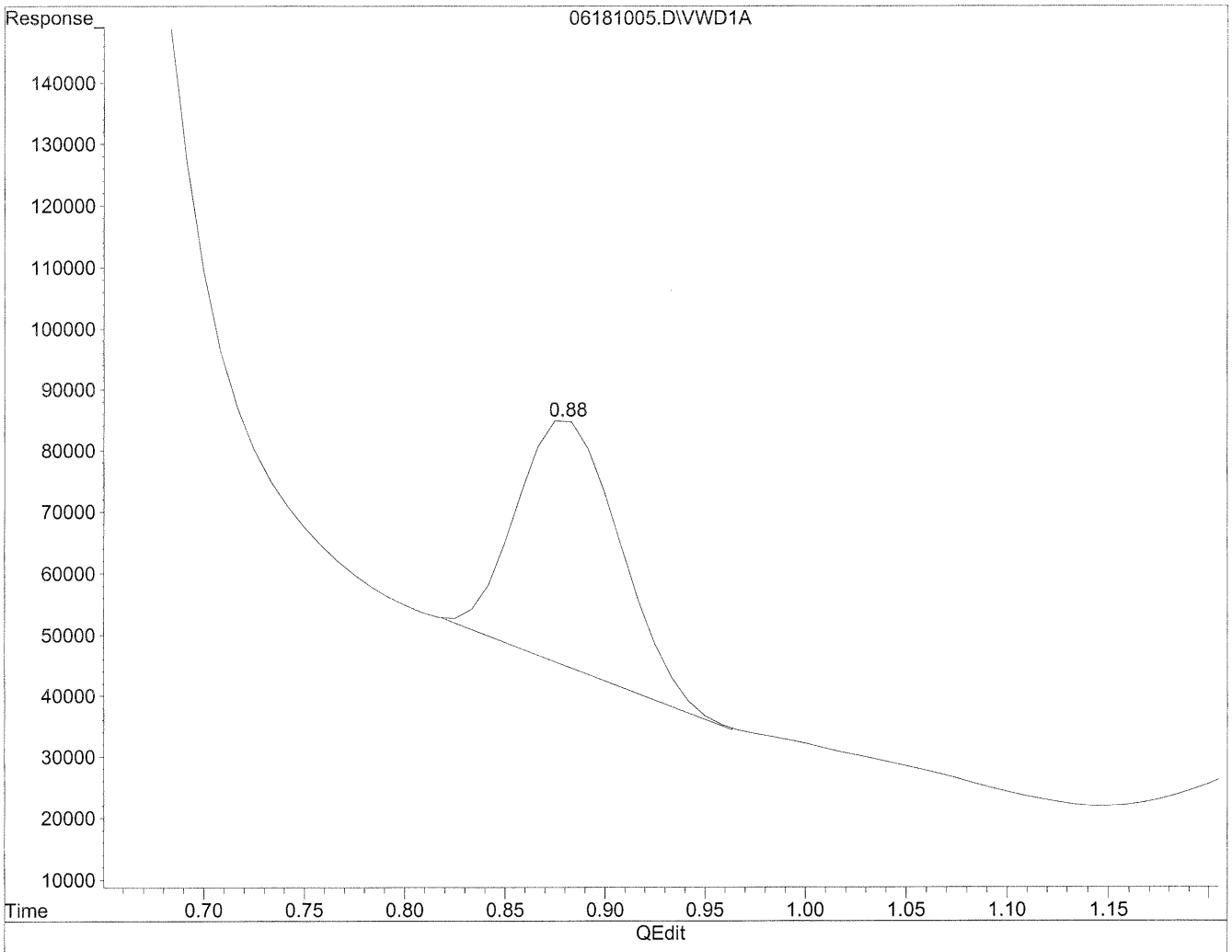
response 974562

(+) = Expected Retention Time
06181005.D TO110510.M Fri Jun 18 10:22:39 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181005.D Vial: 102
Acq On : 18-Jun-2010, 09:49:19 Operator: HC/SM
Sample : P1001953-019 Re Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:22 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.88min 155.175ng/ml m

response 1448227

HC 6/18/10
IC
6/21/10

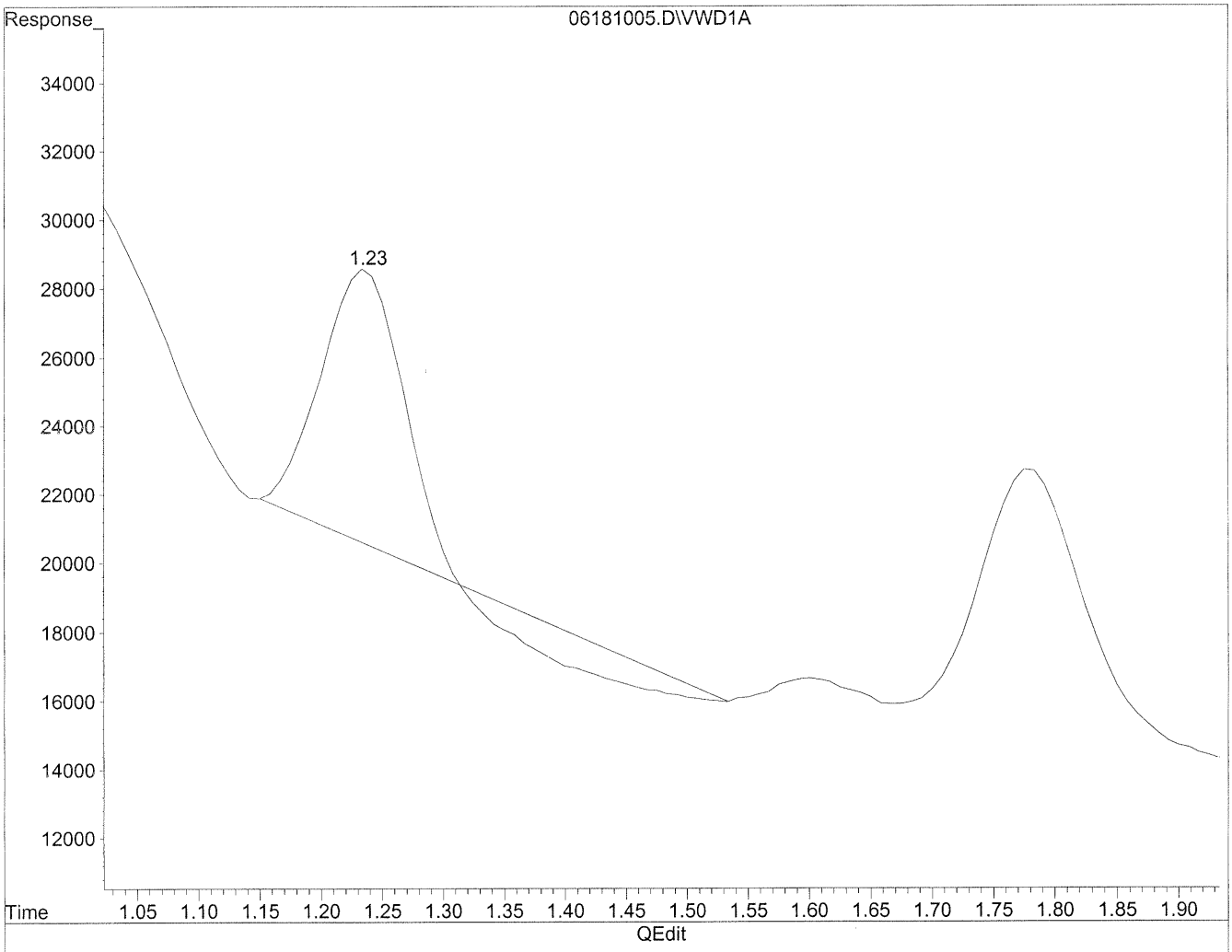
(+) = Expected Retention Time

06181005.D TO110510.M Fri Jun 18 10:22:51 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181005.D Vial: 102
Acq On : 18-Jun-2010, 09:49:19 Operator: HC/SM
Sample : P1001953-019 Re Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:22 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.24min 44.983ng/ml

response 302974

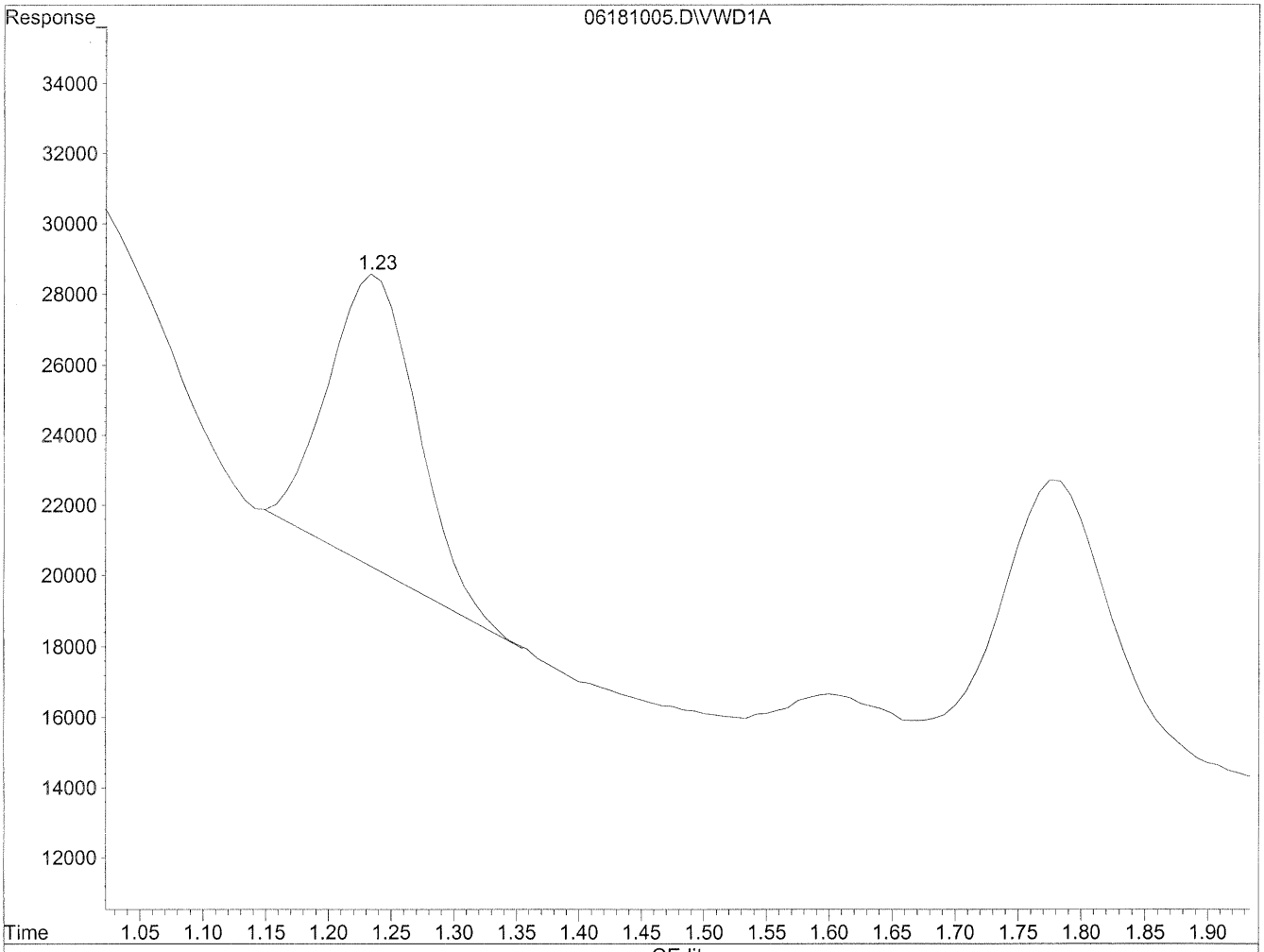
(+) = Expected Retention Time

06181005.D TO110510.M Fri Jun 18 10:23:06 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181005.D Vial: 102
Acq On : 18-Jun-2010, 09:49:19 Operator: HC/SM
Sample : P1001953-019 Re Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:22 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:30 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.23min 61.783ng/ml m

response 416125

JC 6/18/10 IC

6/21/10

(+) = Expected Retention Time

06181005.D TO110510.M Fri Jun 18 10:23:22 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111027**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-020

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 21075 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**49**	**23**	0.096	**19**	0.078	
75-07-0	**Acetaldehyde**	**4.9**	**2.8**	0.11	**1.5**	0.063	
123-38-6	**Propionaldehyde**	**1.7**	**2.0**	0.24	**0.85**	0.10	
123-72-8	**Butyraldehyde**	**2.4**	**10**	0.86	**3.5**	0.29	
100-52-7	**Benzaldehyde**	**2.1**	**1.1**	0.10	**0.25**	0.024	
590-86-3	**Isovaleraldehyde**	**3.2**	**2.5**	0.16	**0.71**	0.044	
110-62-3	**Valeraldehyde**	**7.1**	**12**	0.35	**3.5**	0.10	
66-25-1	**n-Hexaldehyde**	**42**	**110**	0.53	**27**	0.13	

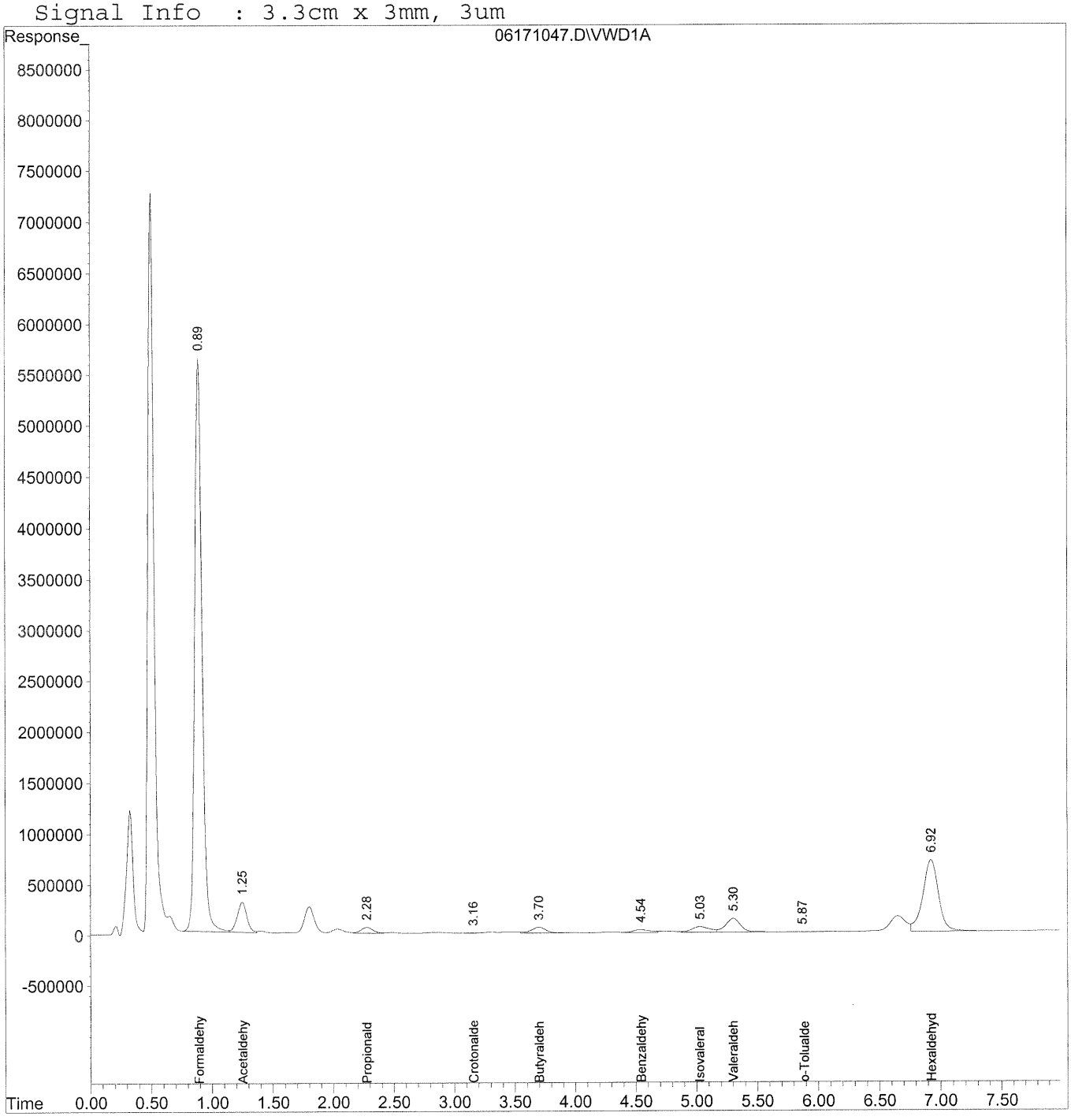
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: _____ Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171047.D Vial: 133
Acq On : 17-Jun-2010, 17:33:12 Operator: HC/SM
Sample : P1001953-020 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:44 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171047.D Vial: 133
Acq On : 17-Jun-2010, 17:33:12 Operator: HC/SM
Sample : P1001953-020 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:44 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

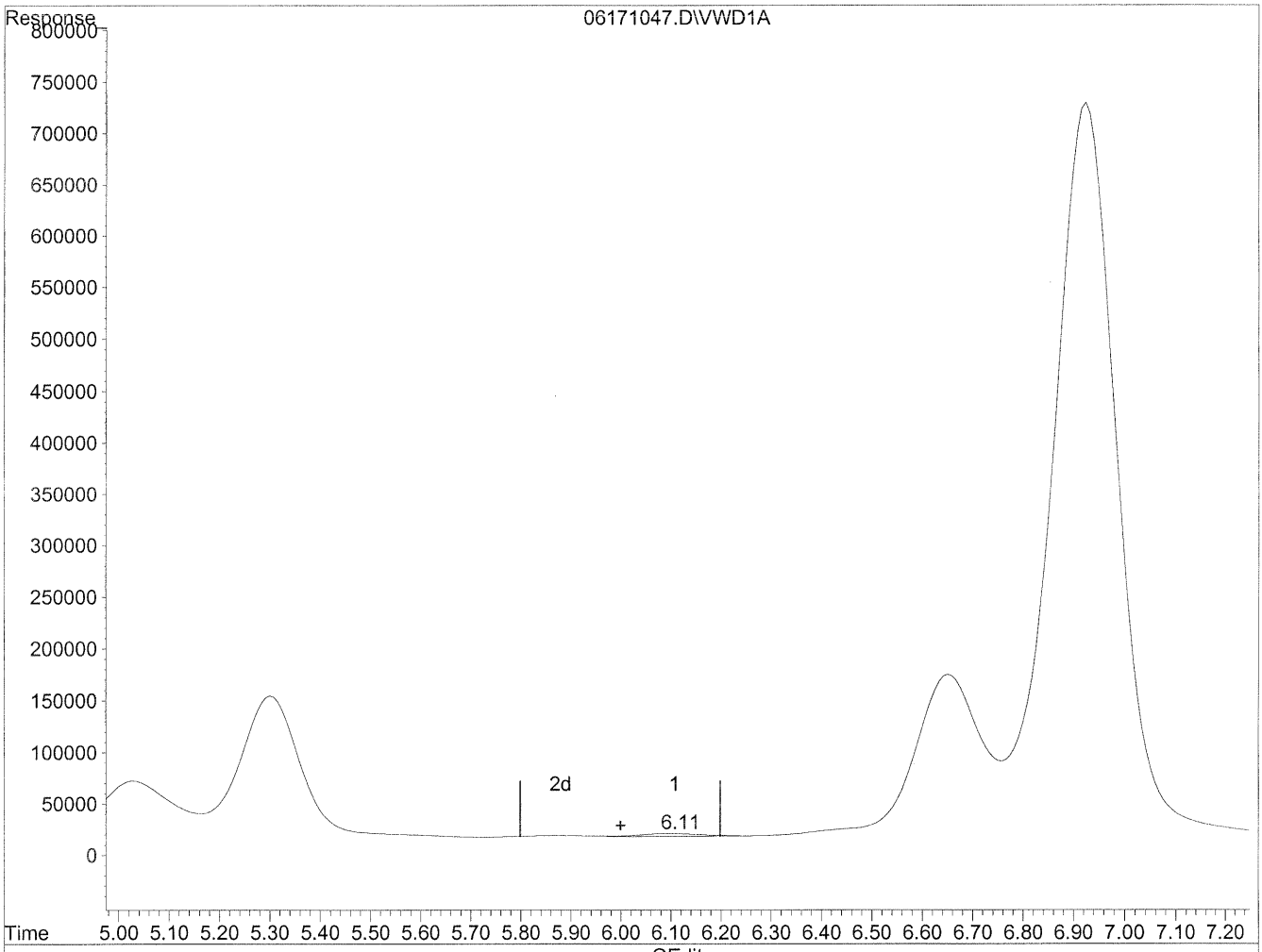
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	233823586	~~25053.759~~	~~ng/ml~~
2)	Acetaldehyde	1.25	16566660	2459.703	ng/ml
3)	Propionaldehyde	2.28	4023962	827.631	ng/ml
4)	Crotonaldehyde	3.16	145029	35.581	ng/ml
5)	Butyraldehyde	3.70	4800687	1191.443	ng/ml
6)	Benzaldehyde	4.54	2799170	1034.155	ng/ml
7)	Isovaleraldehyde	5.03	5692206	1604.475	ng/ml
8)	Valeraldehyde	5.30	11888646	3543.968	ng/ml
9)	o-Tolualdehyde	5.88	105037	51.602	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/mld
11)	Hexaldehyde	6.93	62789332	~~21836.933~~	~~ng/ml~~
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171047.D Vial: 133
Acq On : 17-Jun-2010, 17:33:12 Operator: HC/SM
Sample : P1001953-020 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:43 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

6.11min 108.119ng/ml

response 253280

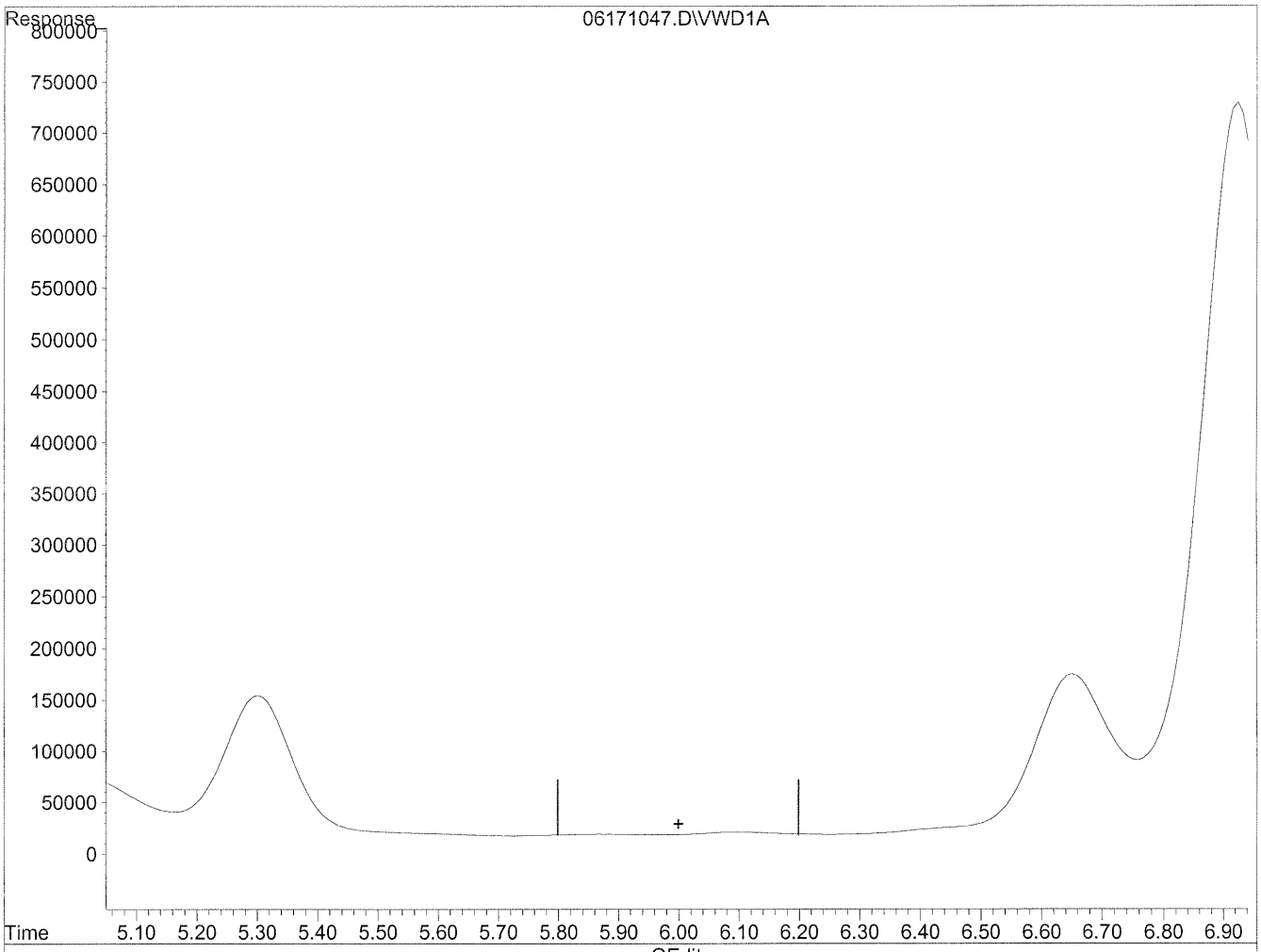
(+) = Expected Retention Time

06171047.D TO110510.M Fri Jun 18 09:44:09 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171047.D Vial: 133
Acq On : 17-Jun-2010, 17:33:12 Operator: HC/SM
Sample : P1001953-020 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:43 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

0.00min 0.000ng/ml d

response 0

HC 6/18/10 mp i PT

6/21/10

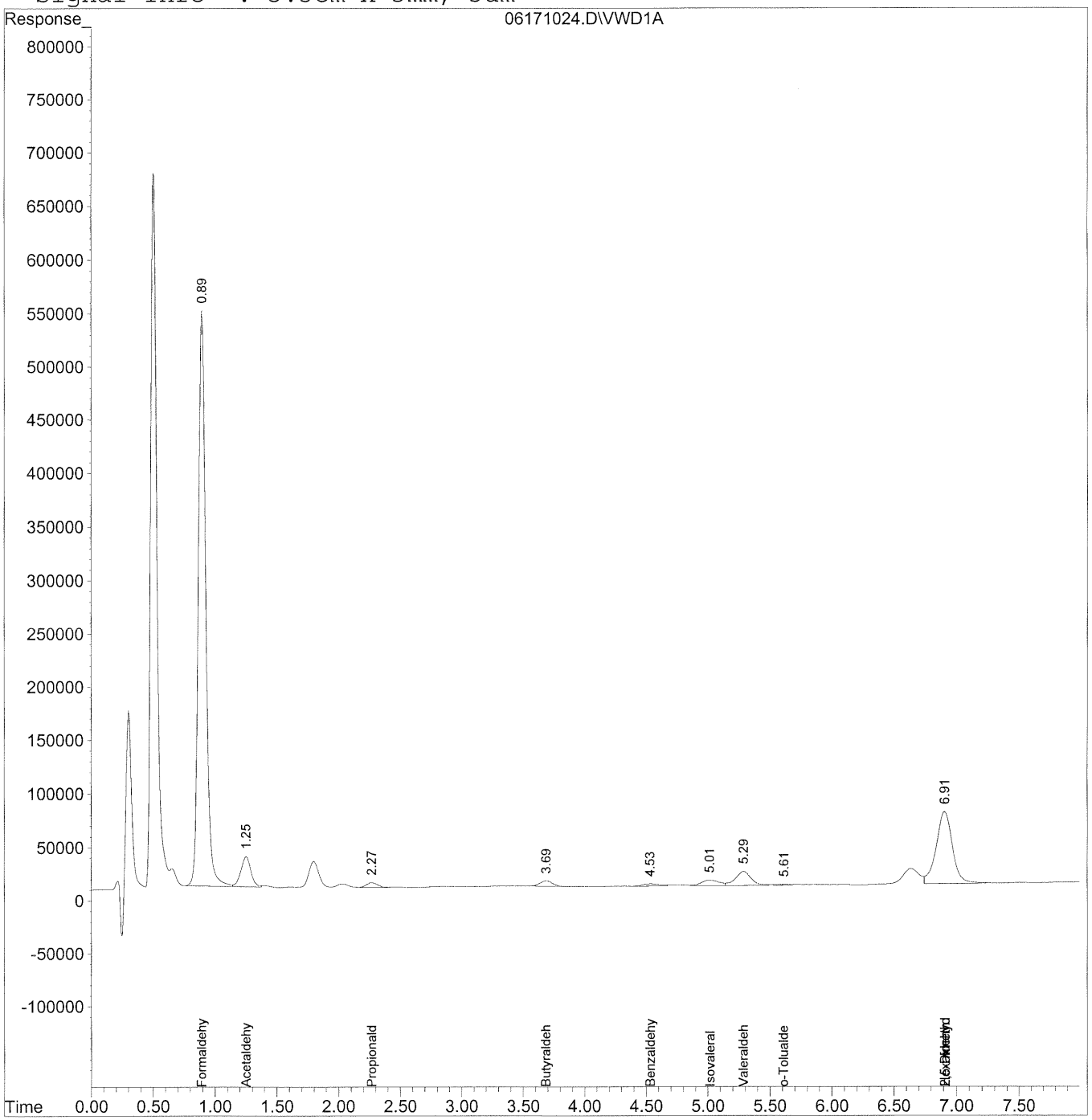
(+) = Expected Retention Time

06171047.D TO110510.M Fri Jun 18 09:44:11 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171024.D Vial: 118
Acq On : 17-Jun-2010, 13:34:36 Operator: HC/SM
Sample : P1001953-020 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:21 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171024.D Vial: 118
Acq On : 17-Jun-2010, 13:34:36 Operator: HC/SM
Sample : P1001953-020 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:21 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

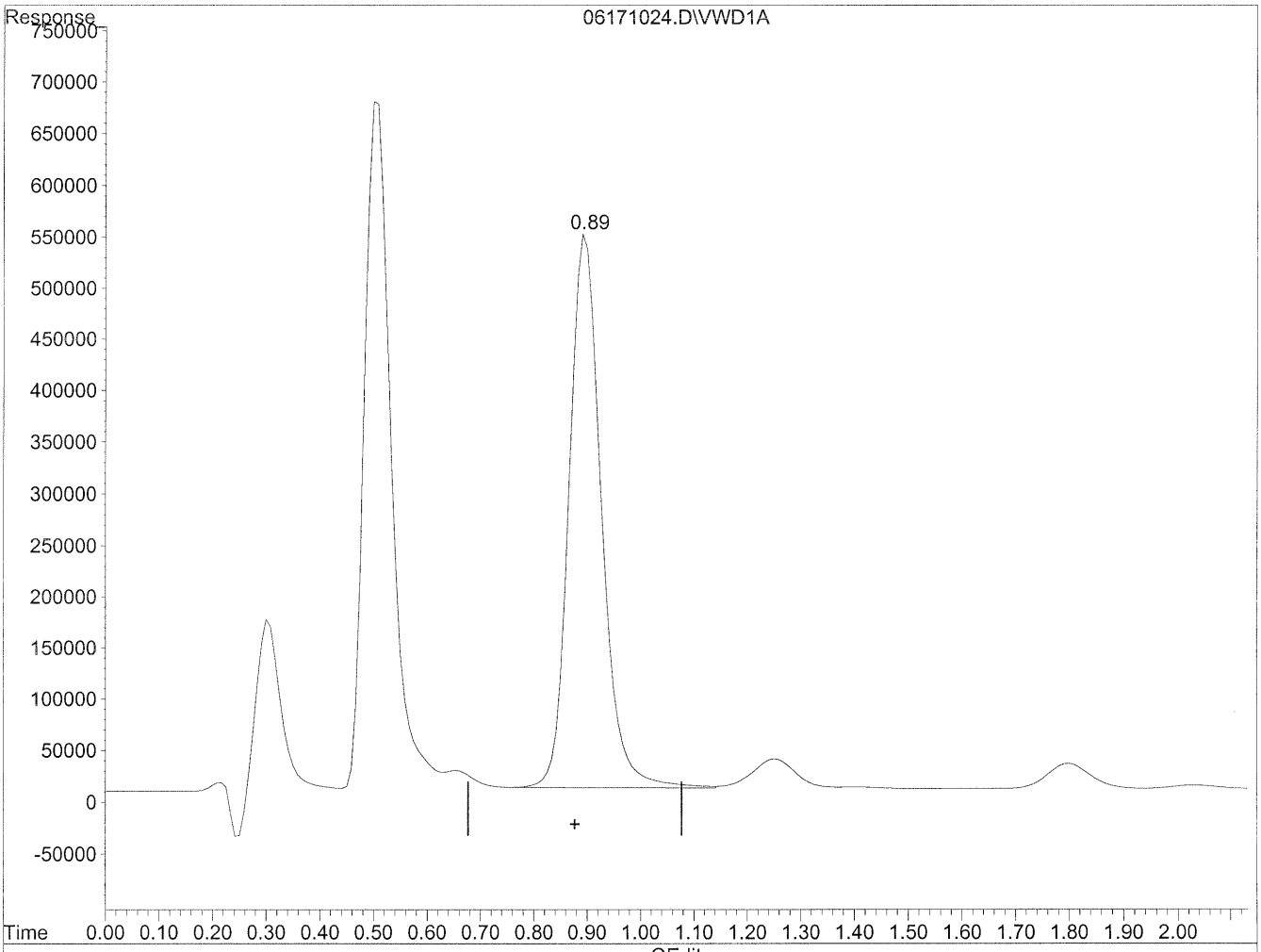
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	22661876	2428.178	ng/ml
2)	Acetaldehyde	1.25	1610556	239.124	ng/ml
3)	Propionaldehyde	2.27	269851	55.502	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.69	367041	91.093	ng/ml
6)	Benzaldehyde	4.53	201419	74.414	ng/ml
7)	Isovaleraldehyde	5.02	510758	143.969	ng/ml
8)	Valeraldehyde	5.29	1145037	341.332	ng/ml
9)	o-Tolualdehyde	5.62	69231	34.011	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.91	6002355	2087.505	ng/ml
12)	2,5-Dimethylbenzaldehyde	6.91f	6002355	3119.663	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171024.D Vial: 118
Acq On : 17-Jun-2010, 13:34:36 Operator: HC/SM
Sample : P1001953-020 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:21 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.90min 2428.178ng/ml

response 22661876

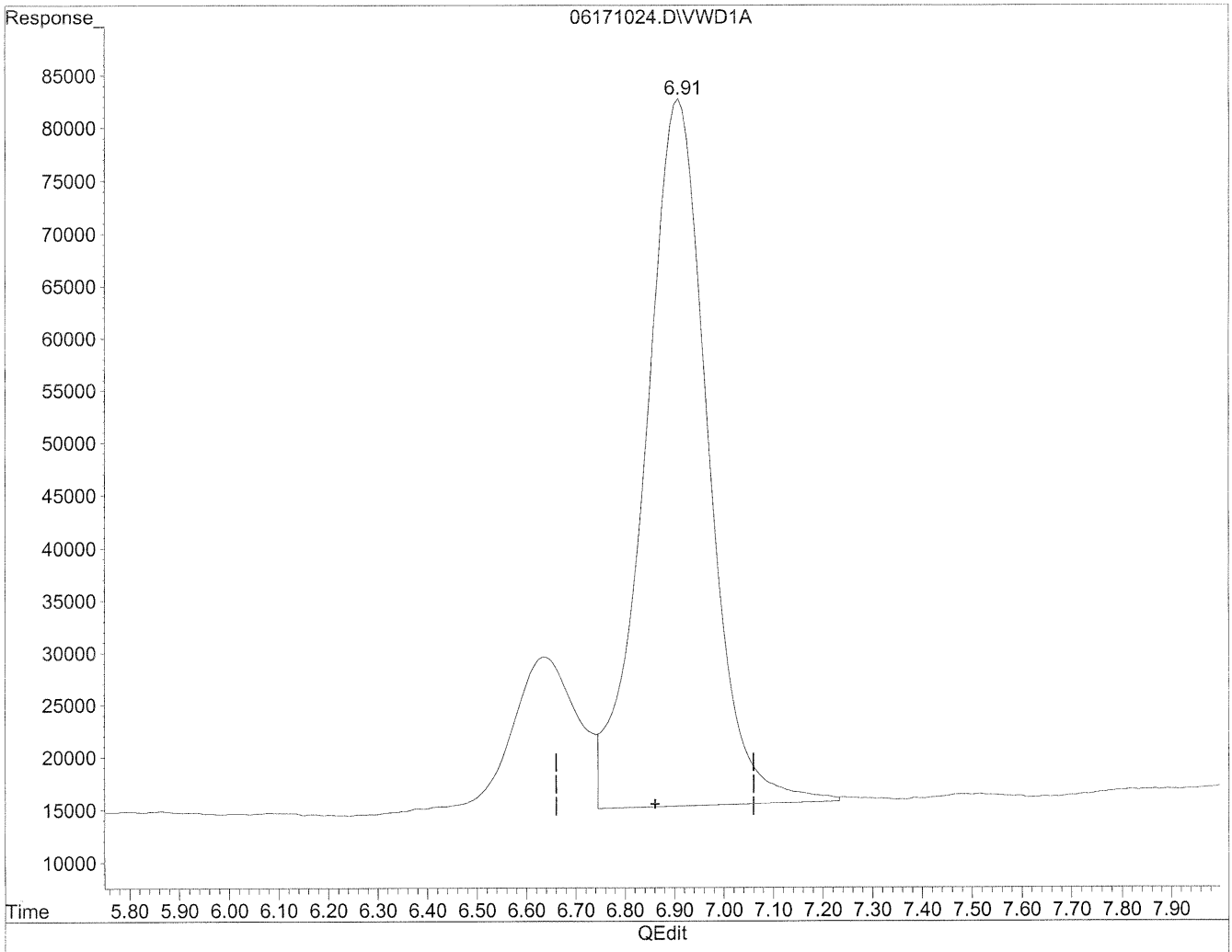
(+) = Expected Retention Time

06171024.D TO110510.M Fri Jun 18 08:25:05 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171024.D Vial: 118
Acq On : 17-Jun-2010, 13:34:36 Operator: HC/SM
Sample : P1001953-020 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:21 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.91min 2087.505ng/ml

response 6002355

(+) = Expected Retention Time

06171024.D TO110510.M Fri Jun 18 08:25:14 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111028**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-021

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 21075 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**43**	**20**	0.096	**17**	0.078	
75-07-0	**Acetaldehyde**	**3.5**	**2.0**	0.11	**1.1**	0.063	
123-38-6	**Propionaldehyde**	**1.3**	**1.6**	0.24	**0.66**	0.10	
123-72-8	**Butyraldehyde**	**1.9**	**8.0**	0.86	**2.7**	0.29	
100-52-7	**Benzaldehyde**	**2.1**	**1.1**	0.10	**0.25**	0.024	
590-86-3	**Isovaleraldehyde**	**3.0**	**2.3**	0.16	**0.67**	0.044	
110-62-3	**Valeraldehyde**	**6.9**	**12**	0.35	**3.5**	0.10	
66-25-1	**n-Hexaldehyde**	**40**	**110**	0.53	**26**	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

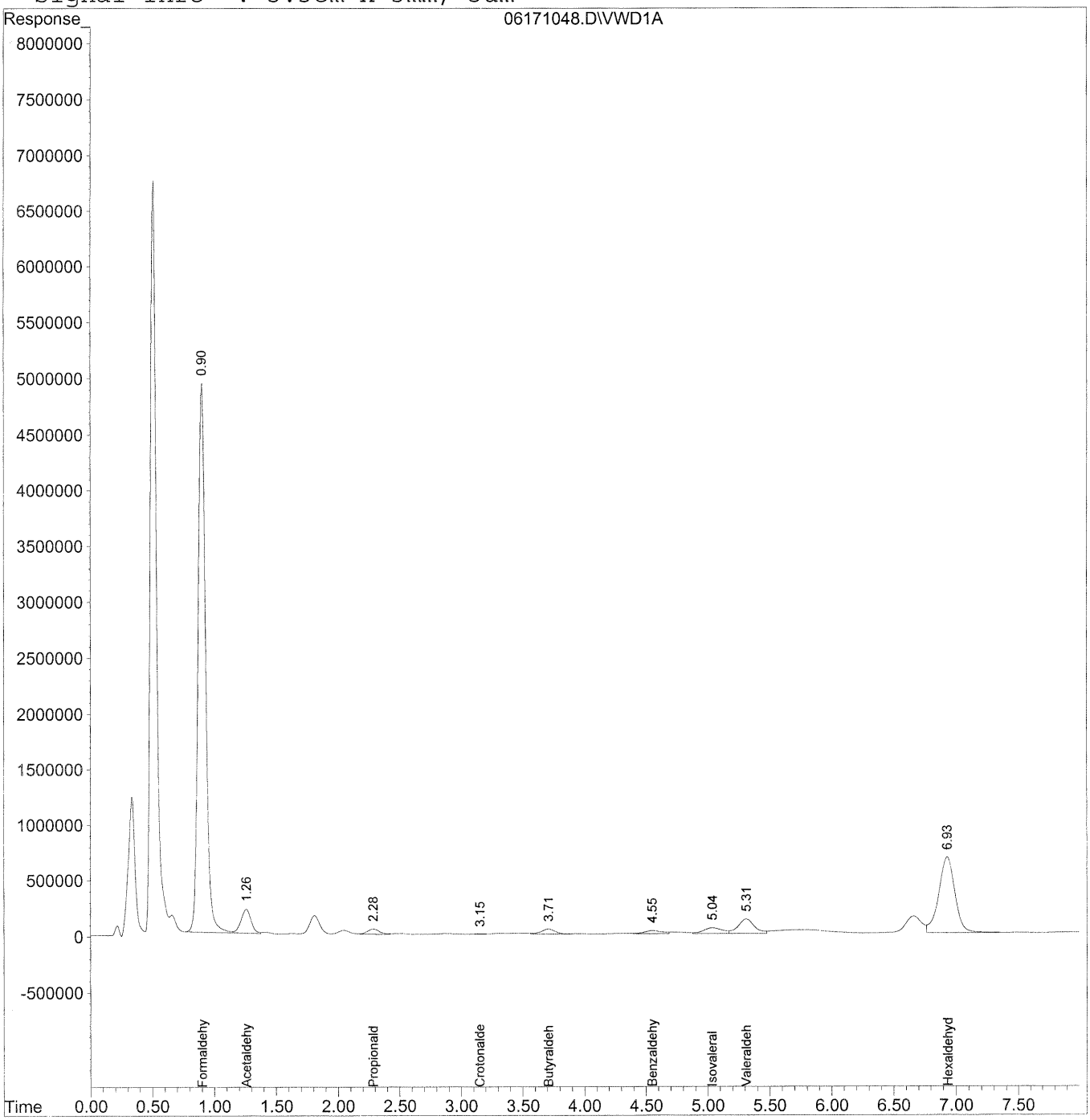
Verified By: _____ Date: 6/20/10

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171048.D Vial: 134
Acq On : 17-Jun-2010, 17:43:44 Operator: HC/SM
Sample : P1001953-021 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:44 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171048.D Vial: 134
Acq On : 17-Jun-2010, 17:43:44 Operator: HC/SM
Sample : P1001953-021 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:44 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

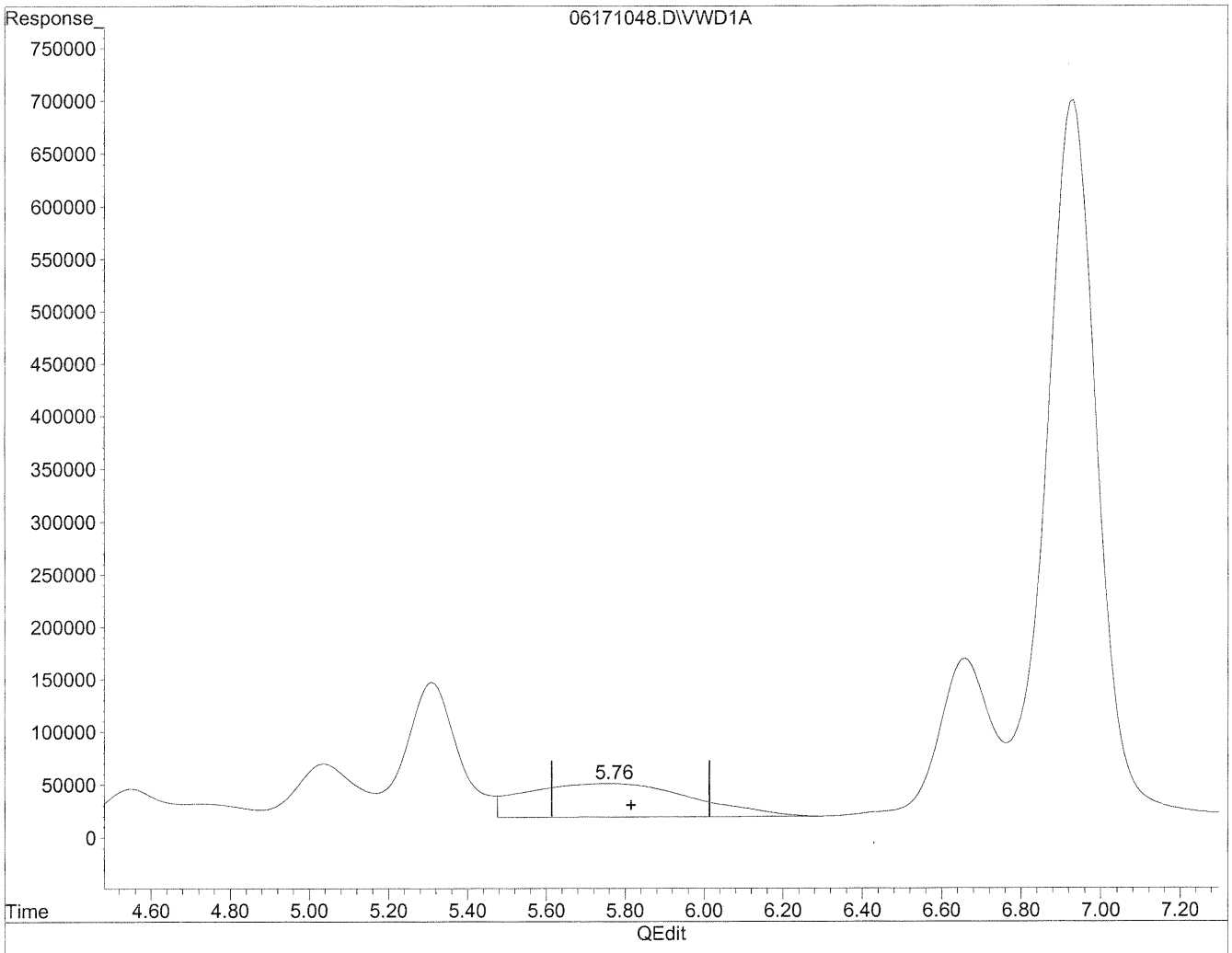
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	204482842	~~21909.953~~	~~ng/ml~~
2)	Acetaldehyde	1.26	11820267	1754.991	ng/ml
3)	Propionaldehyde	2.29	3147702	647.406	ng/ml
4)	Crotonaldehyde	3.16	140553	34.483	ng/ml
5)	Butyraldehyde	3.71	3730915	925.945	ng/ml
6)	Benzaldehyde	4.55	2841644	1049.846	ng/ml
7)	Isovaleraldehyde	5.04	5341647	1505.662	ng/ml
8)	Valeraldehyde	5.31	11606942	3459.993	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/mld
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.93	60193530	~~20934.163~~	~~ng/ml~~
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171048.D Vial: 134
Acq On : 17-Jun-2010, 17:43:44 Operator: HC/SM
Sample : P1001953-021 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:00 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.76min 4621.279ng/ml

response 9406784

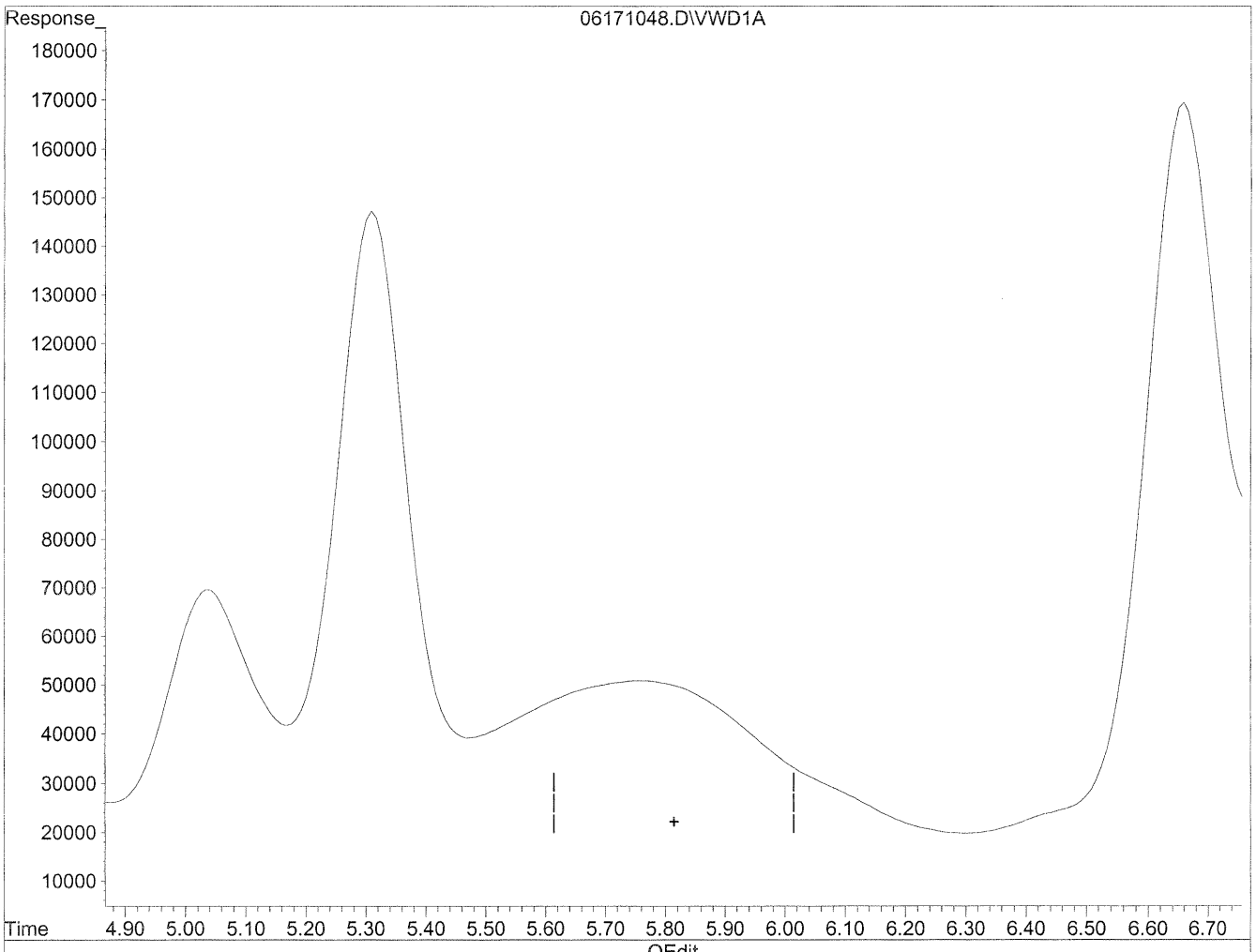
(+) = Expected Retention Time

06171048.D TO110510.M Fri Jun 18 09:44:55 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171048.D Vial: 134
Acq On : 17-Jun-2010, 17:43:44 Operator: HC/SM
Sample : P1001953-021 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:00 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

0.00min 0.000ng/ml d

response 0

6/18/10

6/21/10

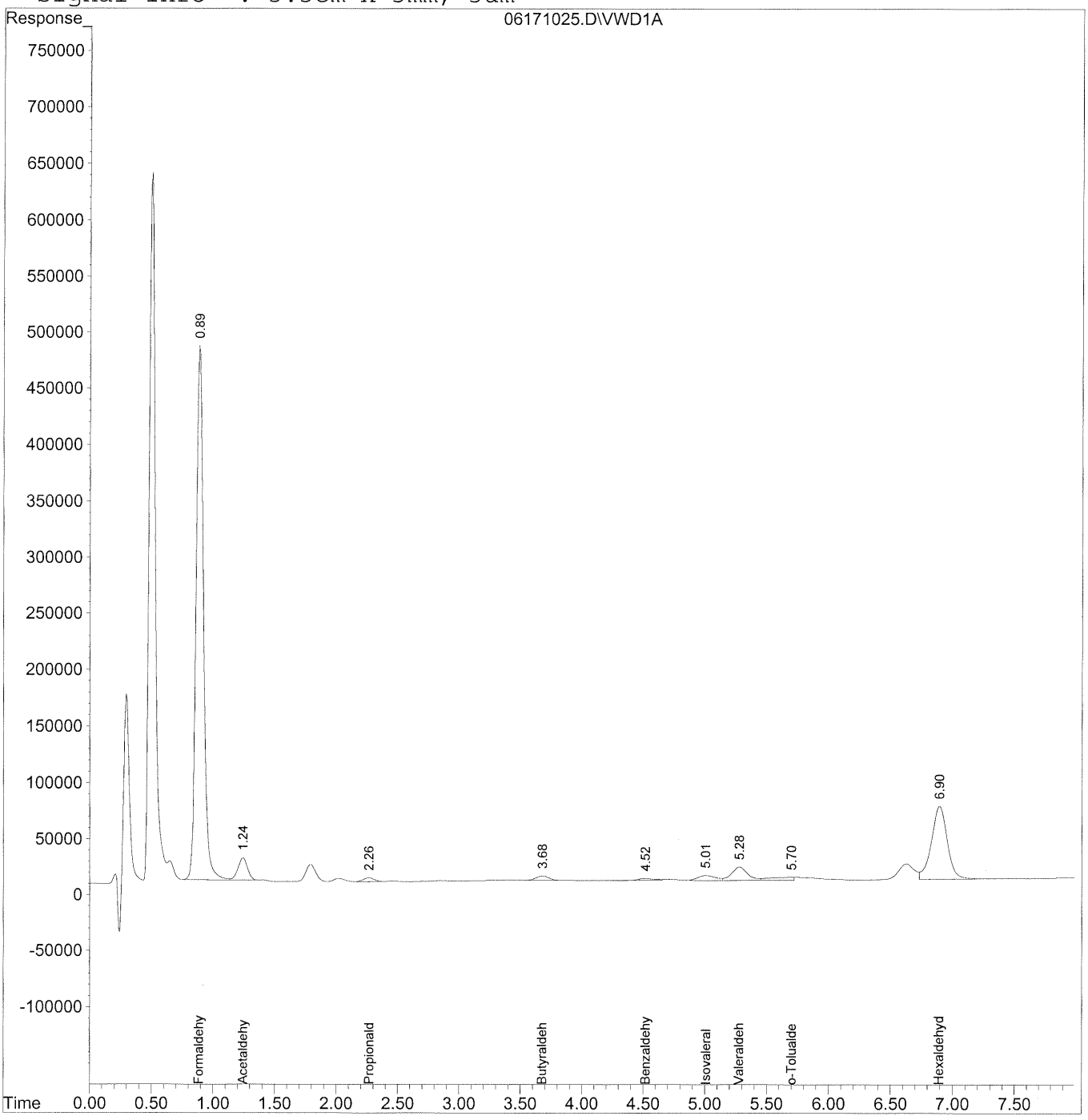
(+) = Expected Retention Time

06171048.D TO110510.M Fri Jun 18 09:44:59 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171025.D Vial: 119
Acq On : 17-Jun-2010, 13:45:10 Operator: HC/SM
Sample : P1001953-021 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:21 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171025.D Vial: 119
Acq On : 17-Jun-2010, 13:45:10 Operator: HC/SM
Sample : P1001953-021 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:21 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

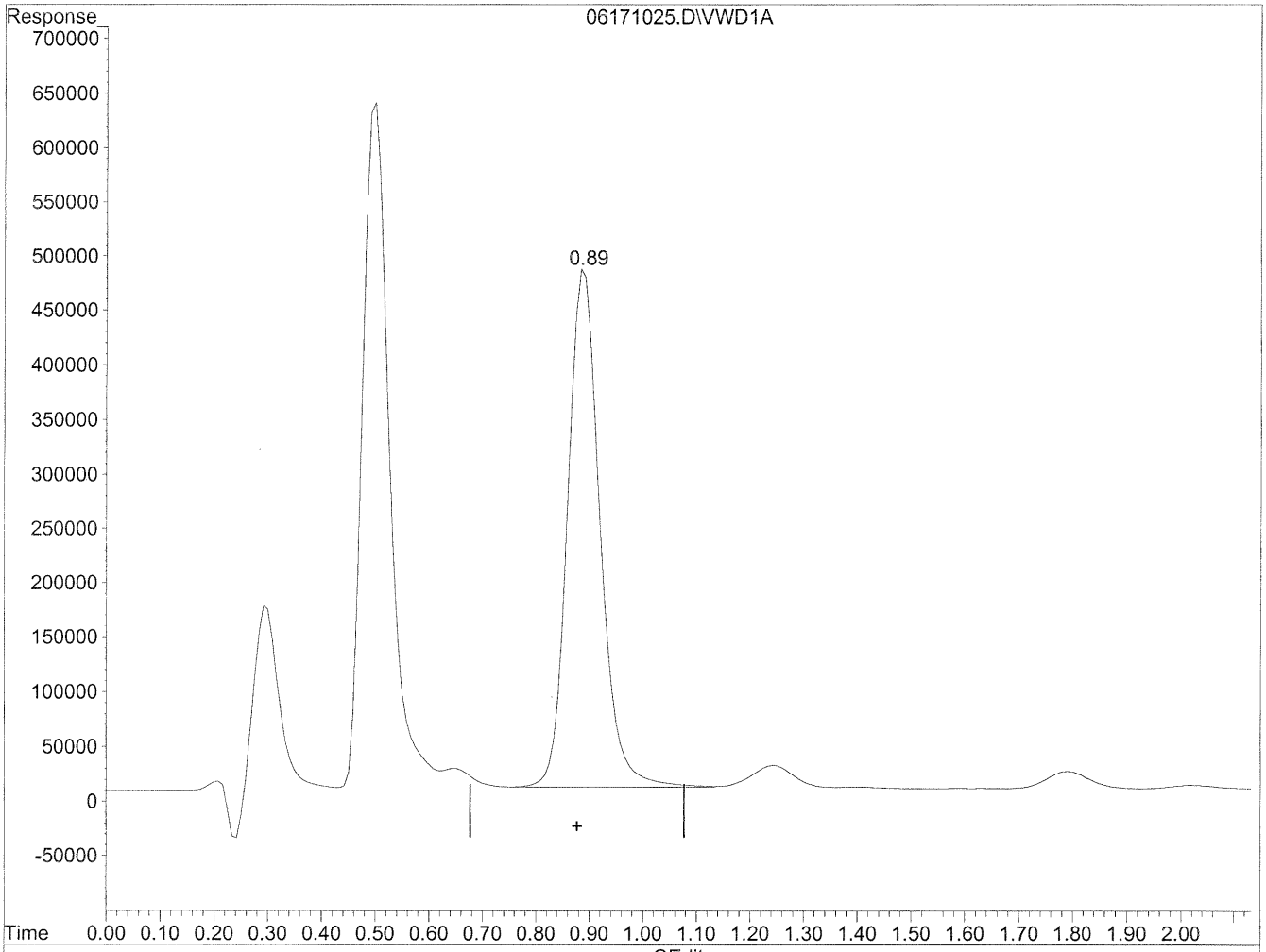
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	19957390	2138.397	ng/ml
2)	Acetaldehyde	1.25	1058400	157.144	ng/ml
3)	Propionaldehyde	2.27	209022	42.991	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.68	302372	75.043	ng/ml
6)	Benzaldehyde	4.52	215107	79.471	ng/ml
7)	Isovaleraldehyde	5.01	439188	123.795	ng/ml
8)	Valeraldehyde	5.28	1057495	315.236	ng/ml
9)	o-Tolualdehyde	5.70	359241	176.484	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.90	5798253	2016.522	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171025.D Vial: 119
Acq On : 17-Jun-2010, 13:45:10 Operator: HC/SM
Sample : P1001953-021 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:21 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 2138.397ng/ml

response 19957390

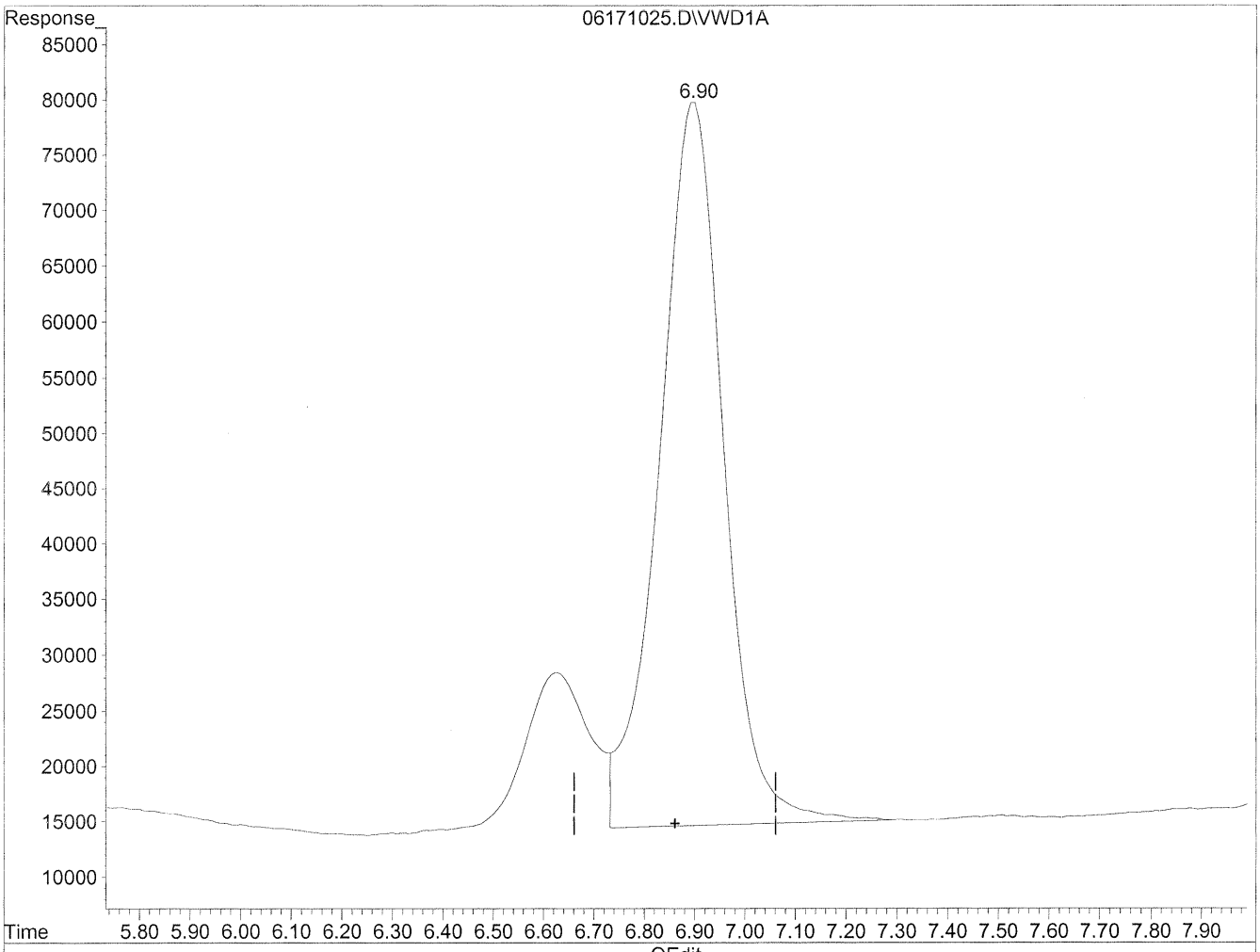
(+) = Expected Retention Time

06171025.D TO110510.M Fri Jun 18 08:27:19 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171025.D Vial: 119
Acq On : 17-Jun-2010, 13:45:10 Operator: HC/SM
Sample : P1001953-021 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:21 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.90min 2016.522ng/ml

response 5798253

(+) = Expected Retention Time

06171025.D TO110510.M Fri Jun 18 08:27:24 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111029**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-022

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 21075 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**45**	**22**	0.096	**18**	0.078	
75-07-0	**Acetaldehyde**	**3.1**	**1.8**	0.11	**0.98**	0.063	
123-38-6	**Propionaldehyde**	**1.1**	**1.4**	0.24	**0.58**	0.10	
123-72-8	**Butyraldehyde**	**1.7**	**7.2**	0.86	**2.4**	0.29	
100-52-7	**Benzaldehyde**	**1.9**	**1.0**	0.10	**0.23**	0.024	
590-86-3	**Isovaleraldehyde**	**1.9**	**1.5**	0.16	**0.43**	0.044	
110-62-3	**Valeraldehyde**	**5.8**	**10**	0.35	**2.9**	0.10	
66-25-1	**n-Hexaldehyde**	**37**	**97**	0.53	**24**	0.13	

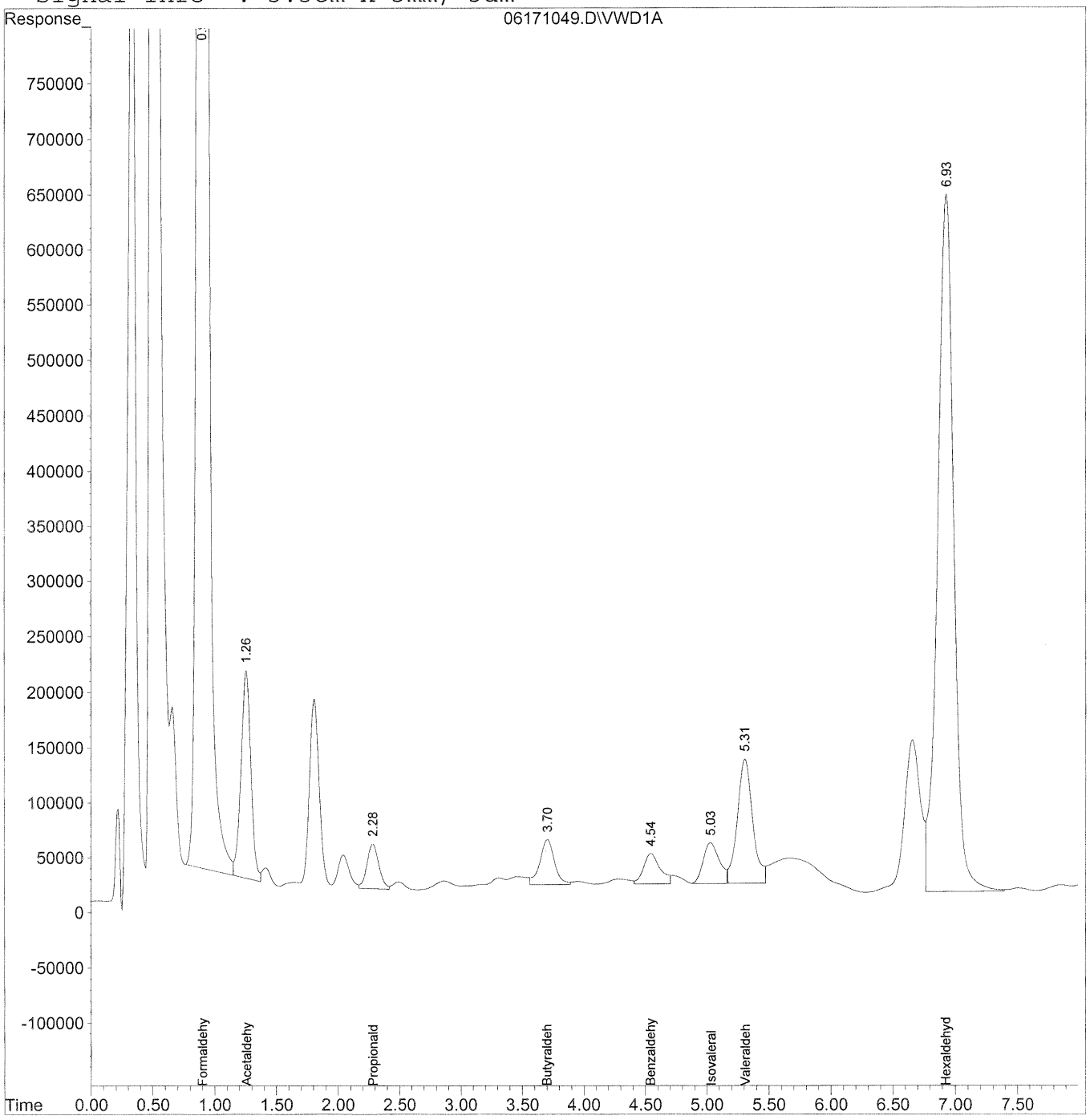
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Rc Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:49 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:49 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

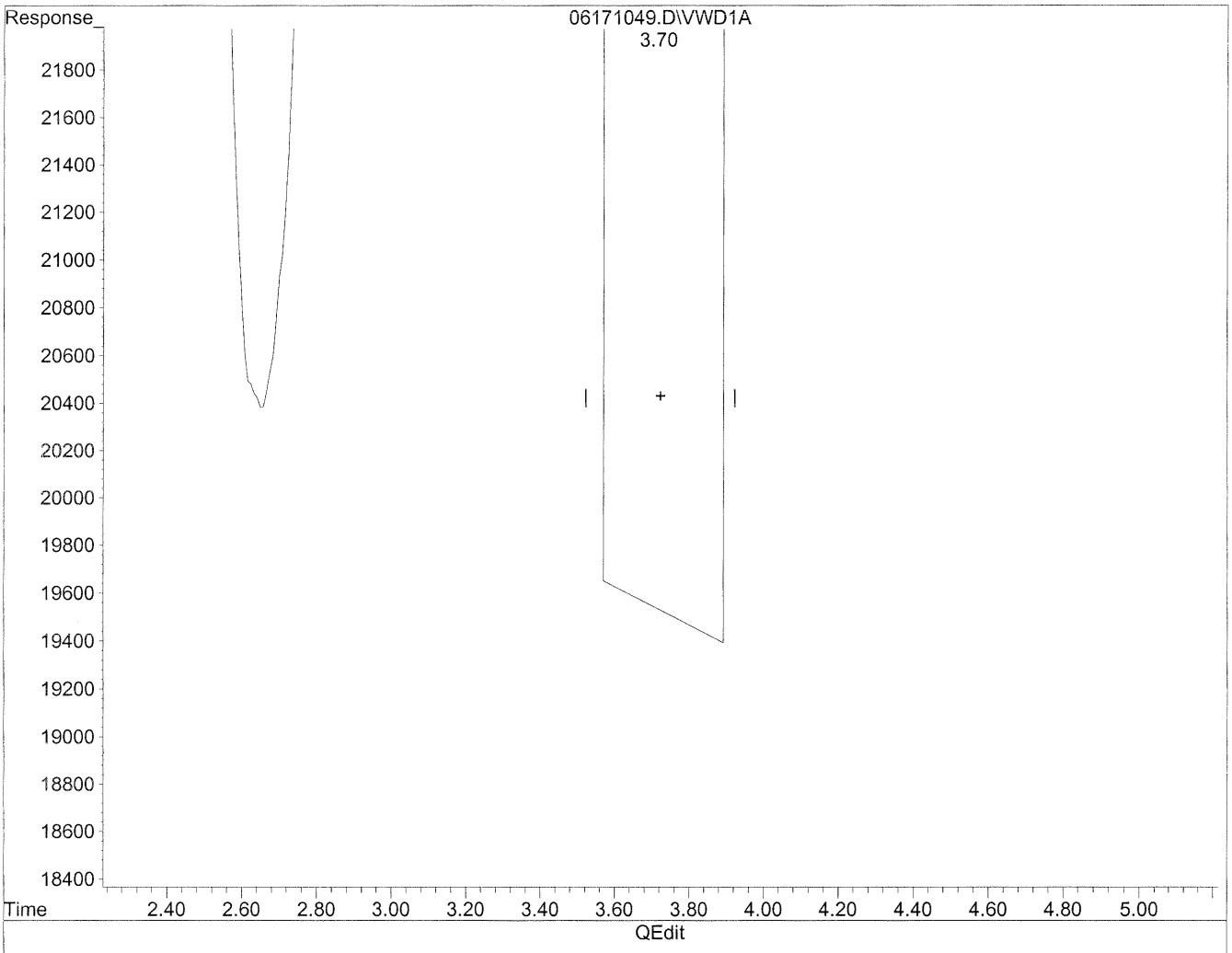
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	214245478	~~22956.001~~	ng/ml
2)	Acetaldehyde	1.26	10499436	1558.884	ng/ml
3)	Propionaldehyde	2.28	2766335	568.968	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.70	3372464	836.984	ng/mlm
6)	Benzaldehyde	4.54	2620236	968.047	ng/mlm
7)	Isovaleraldehyde	5.03	3413021	962.036	ng/mlm
8)	Valeraldehyde	5.31	9707294	2893.714	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/mld
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.93	55880158	~~19434.054~~	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54:18 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.71min 1099.876ng/ml

response 4431735

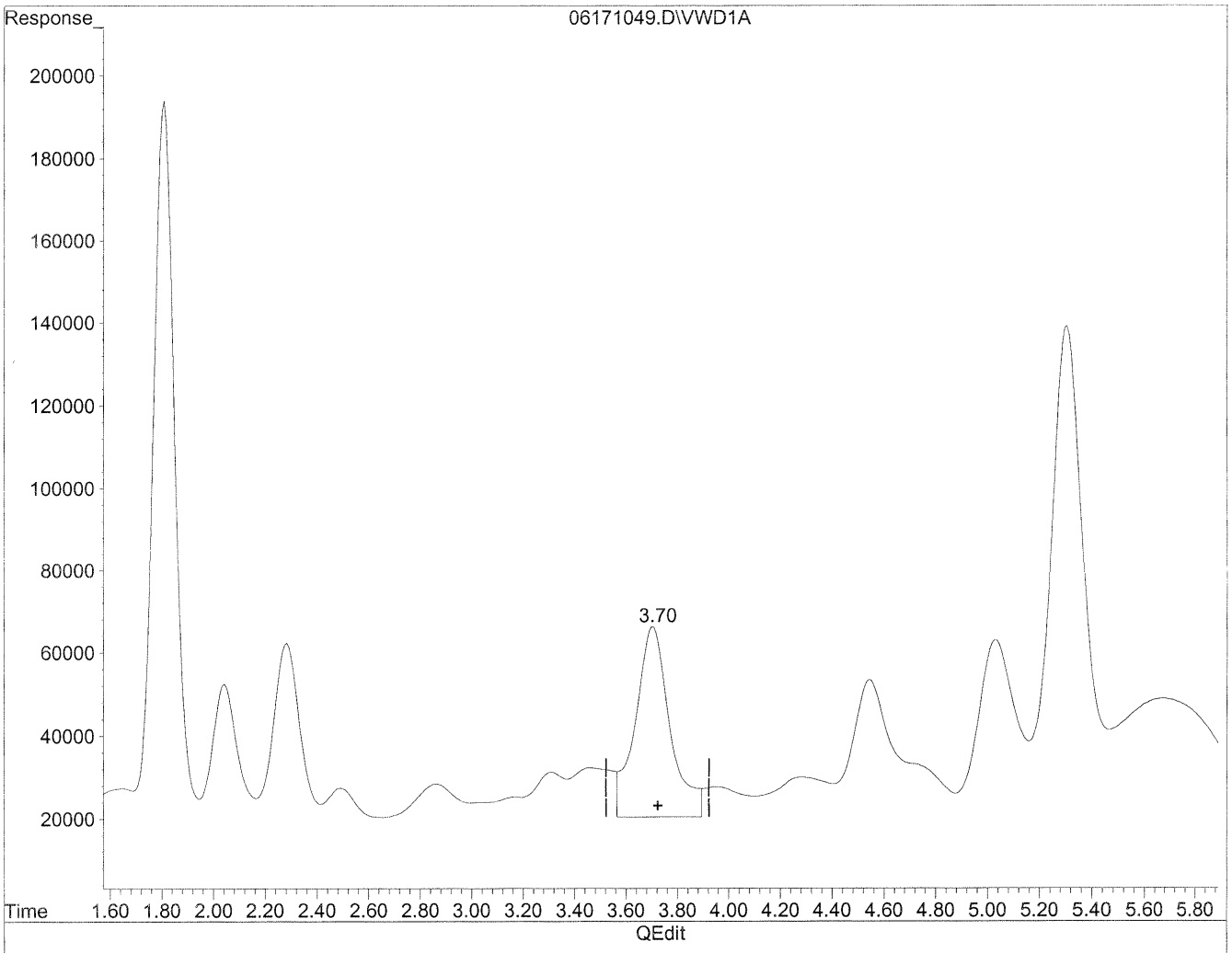
(+) = Expected Retention Time

06171049.D TO110510.M Fri Jun 18 09:46:53 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54:18 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.70min 1070.996ng/ml m

response 4315370

HL 6/18/10
BL
fixed BL
see next page.
MR 6/21/10

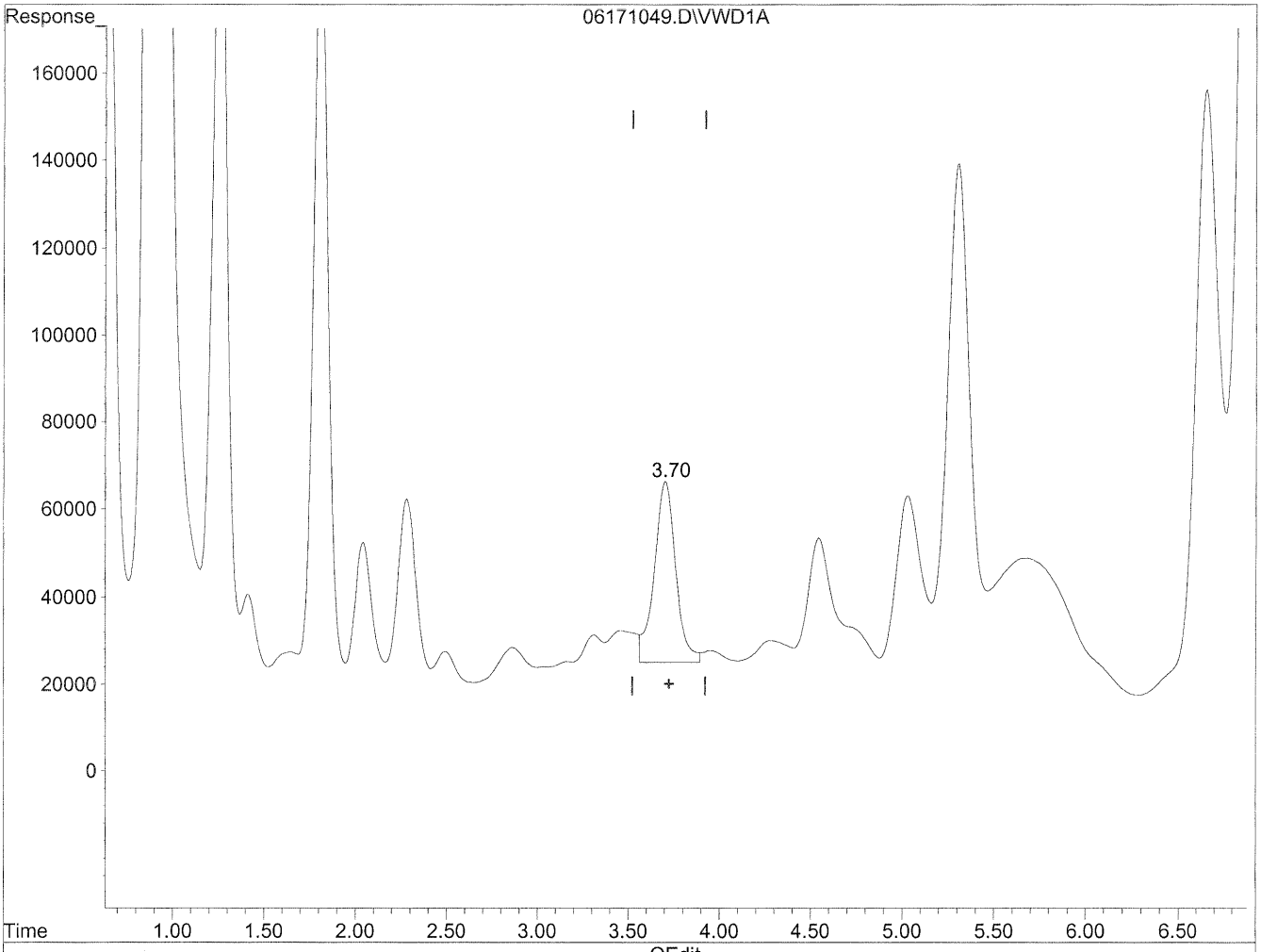
(+) = Expected Retention Time

06171049.D TO110510.M Fri Jun 18 09:47:08 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:49 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



QEdit

(5) Butyraldehyde

3.70min 836.984ng/ml m

response 3372464

fix BL 6/21/10

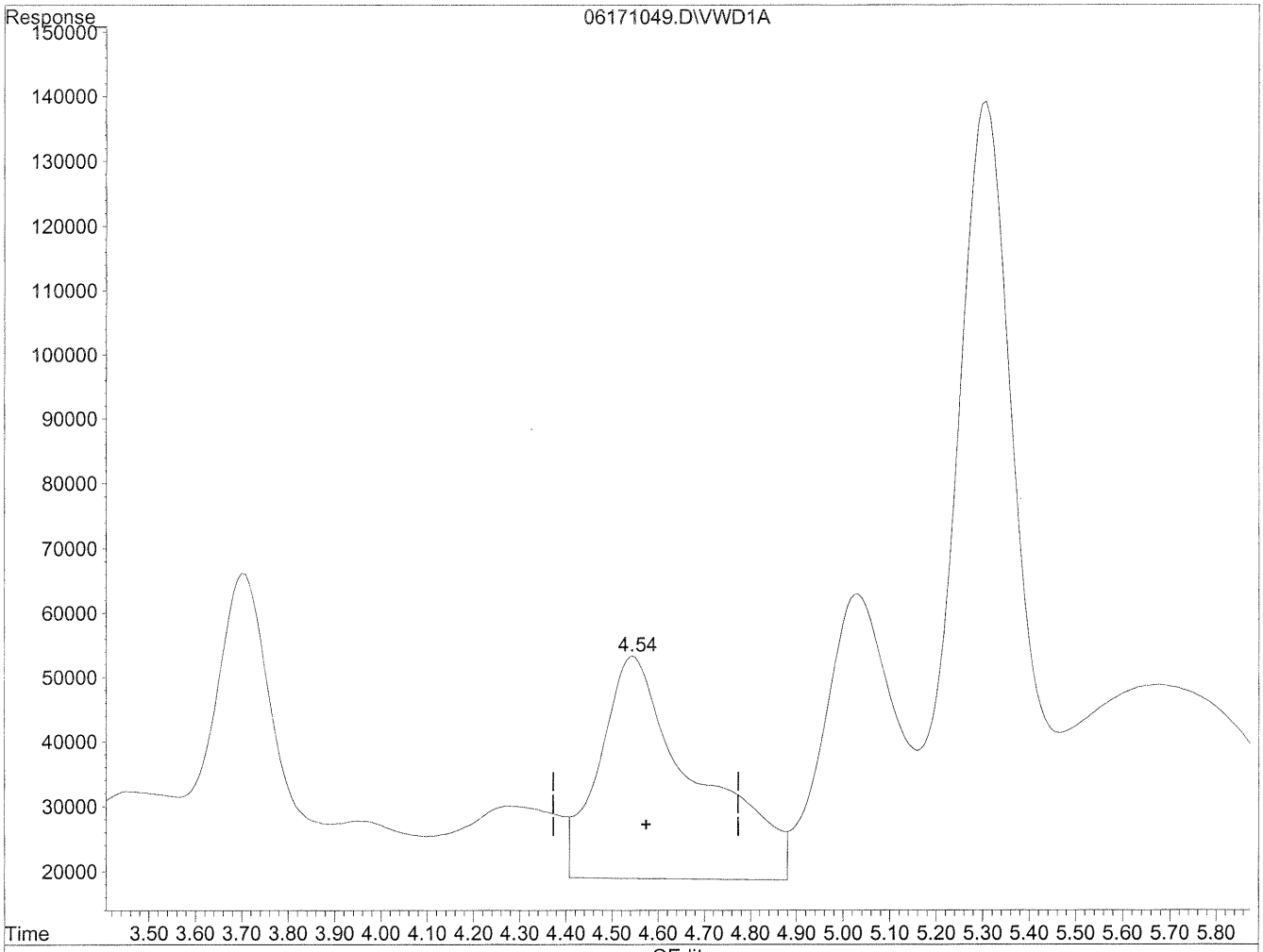
(+) = Expected Retention Time

06171049.D TO110510.M Mon Jun 21 11:50:15 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54:18 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.55min 1840.323ng/ml

response 4981245

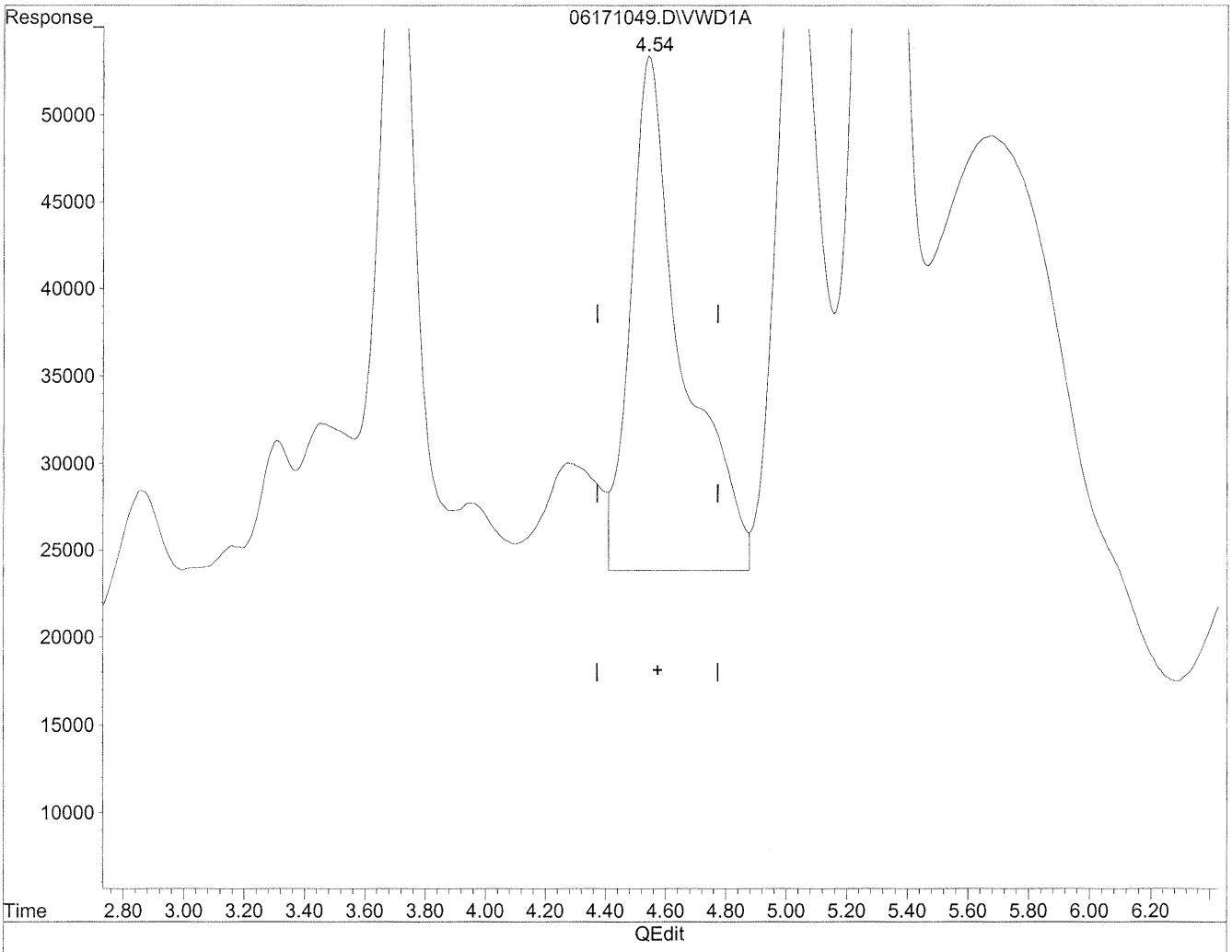
(+) = Expected Retention Time

06171049.D TO110510.M Fri Jun 18 09:47:17 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54:18 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.54min 1306.531ng/ml m

response 3536418

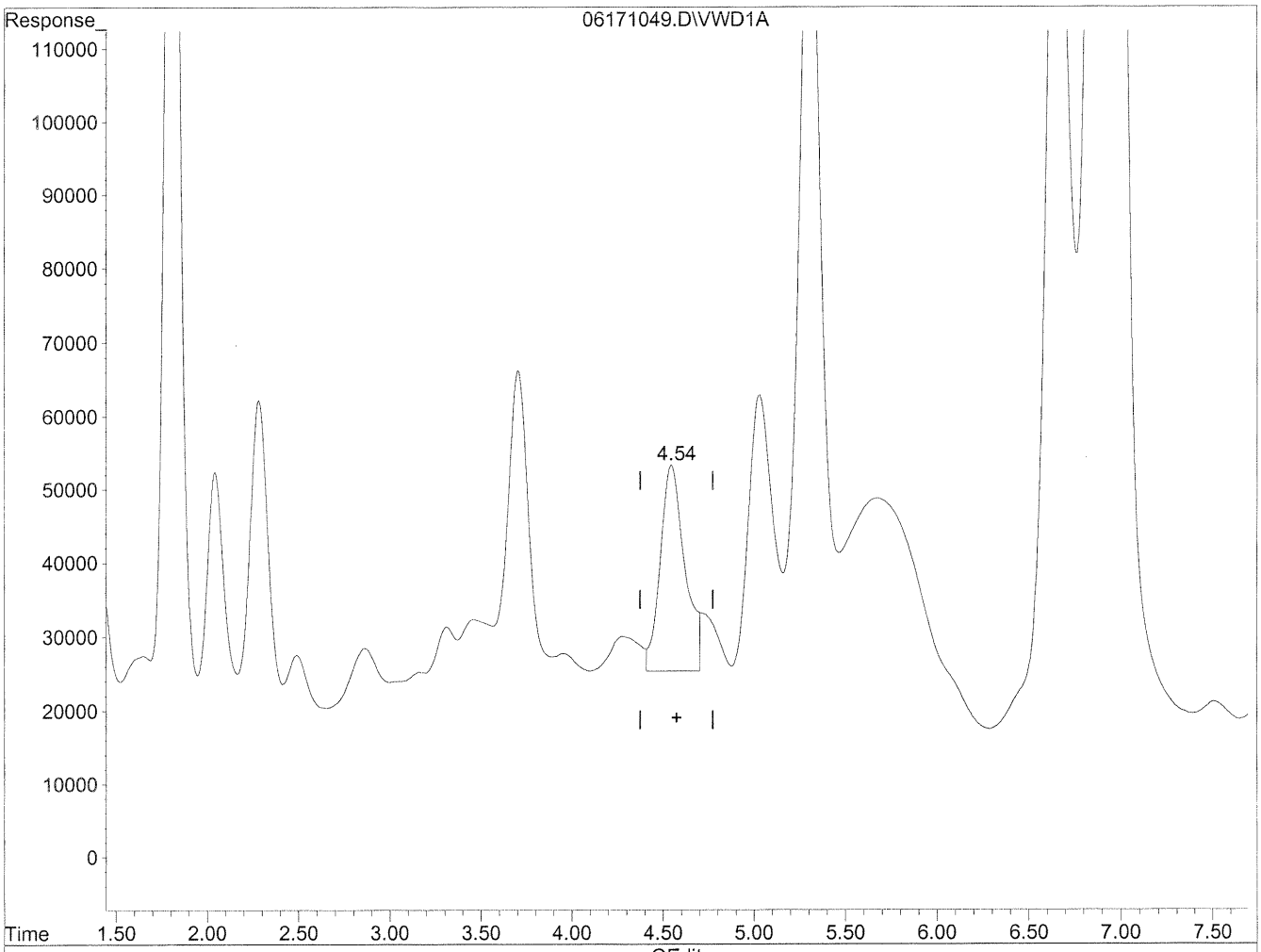
HC 6/18/10
BC 1 + Sh
fix BC
MD 6/21/10
per next page.

(+) = Expected Retention Time
06171049.D TO110510.M Fri Jun 18 09:47:45 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:49 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.54min 968.047ng/ml m

response 2620236

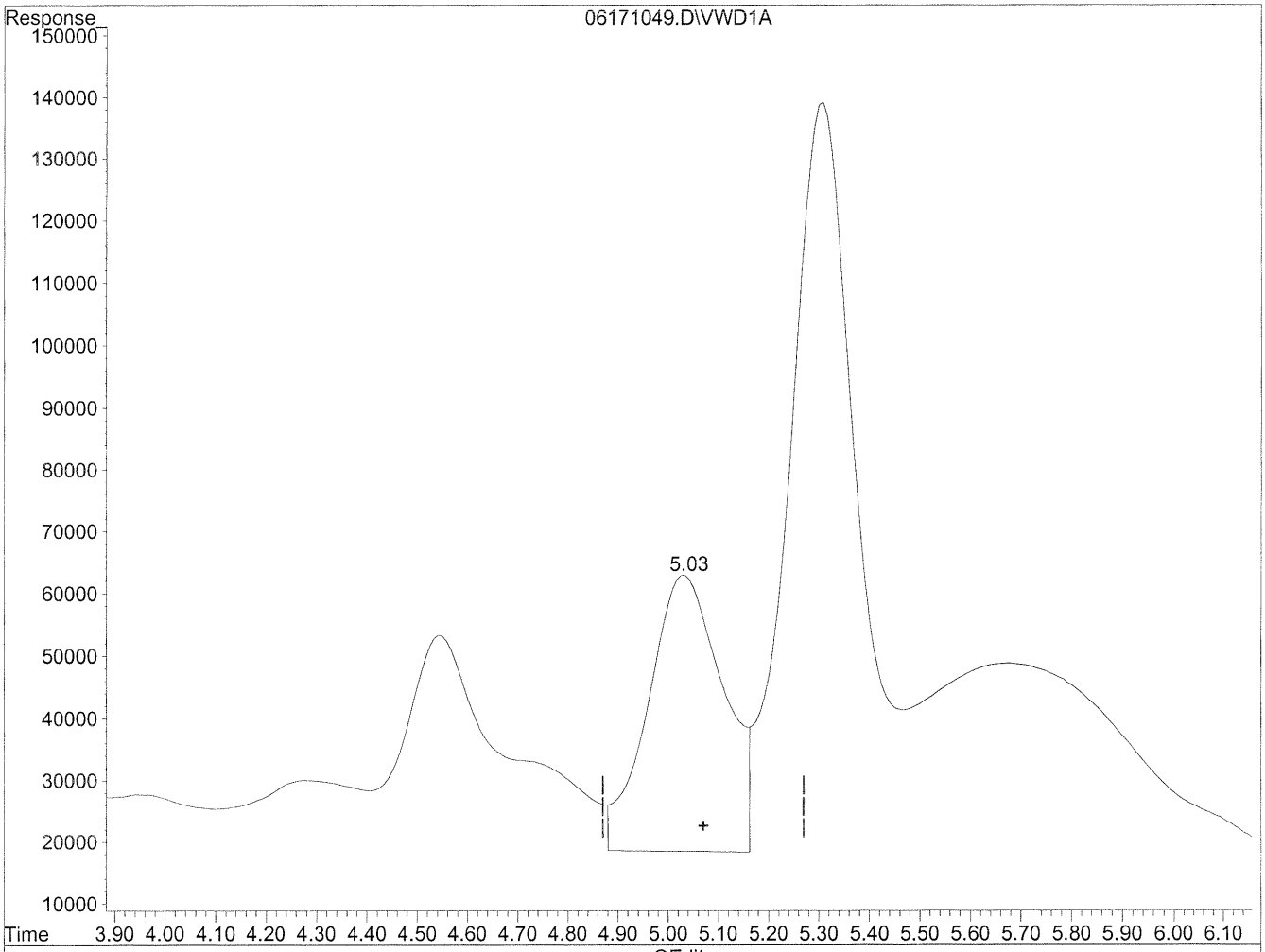
(+) = Expected Retention Time

06171049.D TO110510.M Mon Jun 21 11:50:26 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54:18 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.03min 1297.622ng/ml

response 4603580

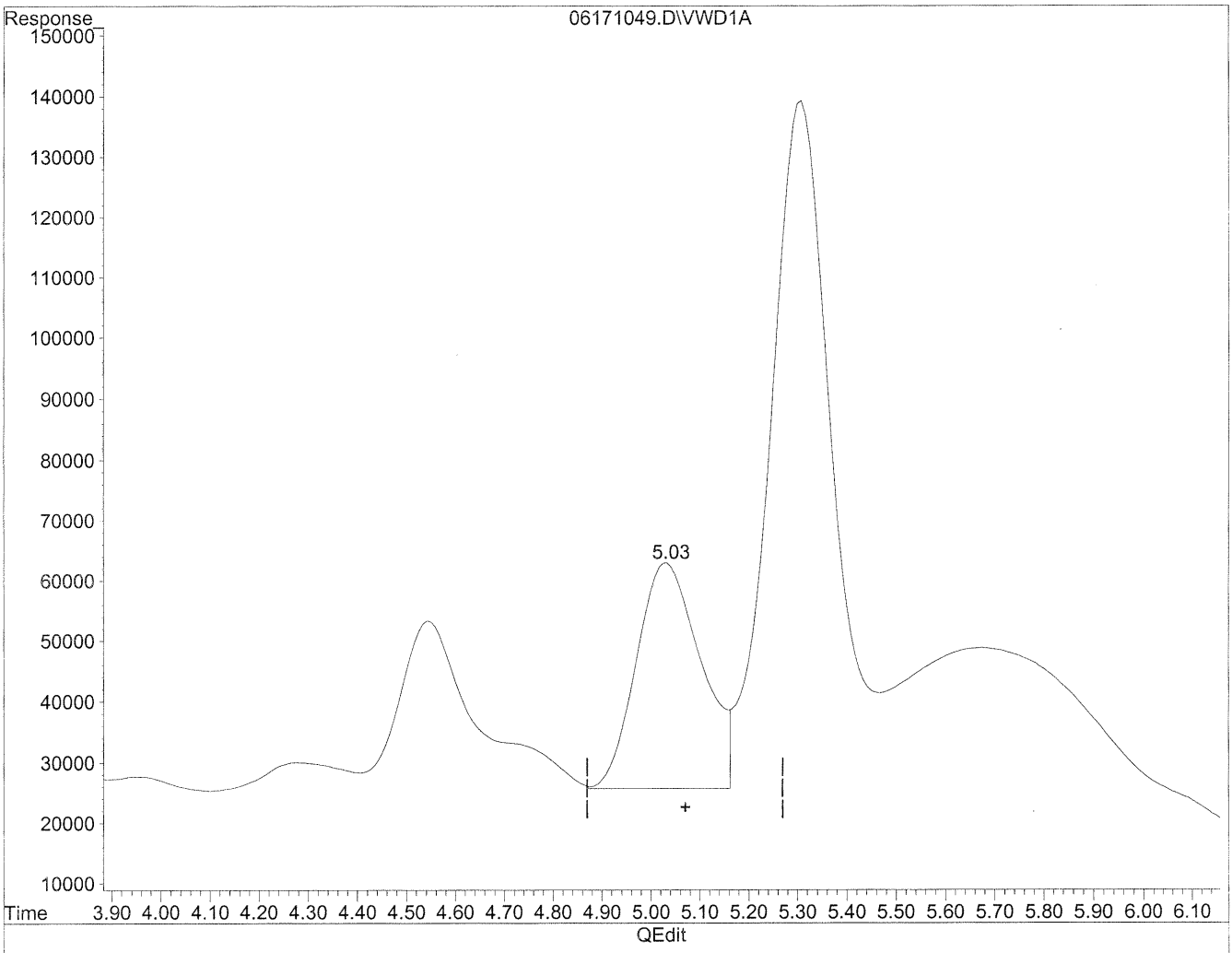
(+) = Expected Retention Time

06171049.D TO110510.M Fri Jun 18 09:47:49 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54:18 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.03min 962.036ng/ml m

response 3413021

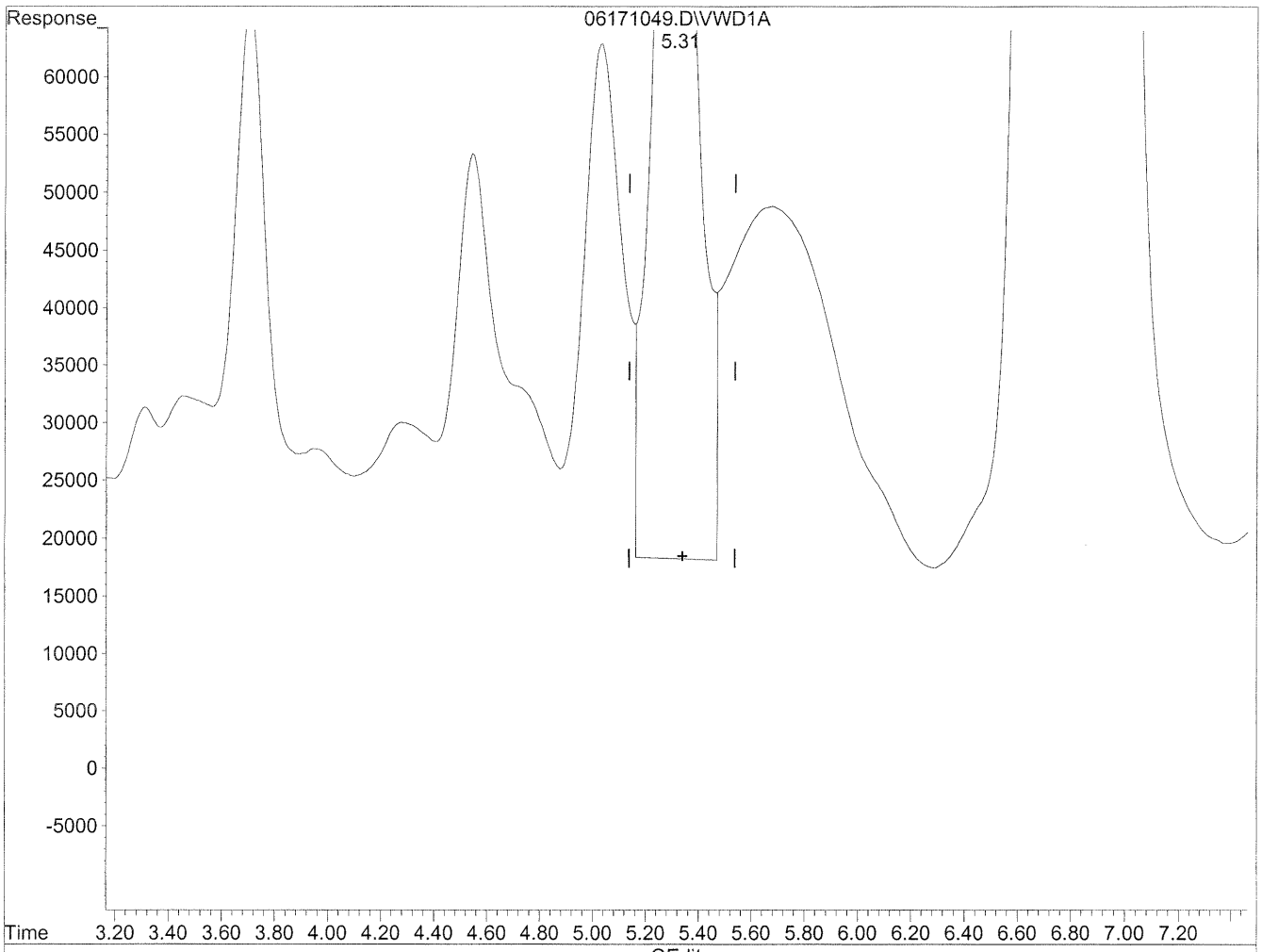
6/18/10 RE 6/21/10

(+) = Expected Retention Time
06171049.D TO110510.M Fri Jun 18 09:48:01 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54:18 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.31min 3336.645ng/ml

response 11193159

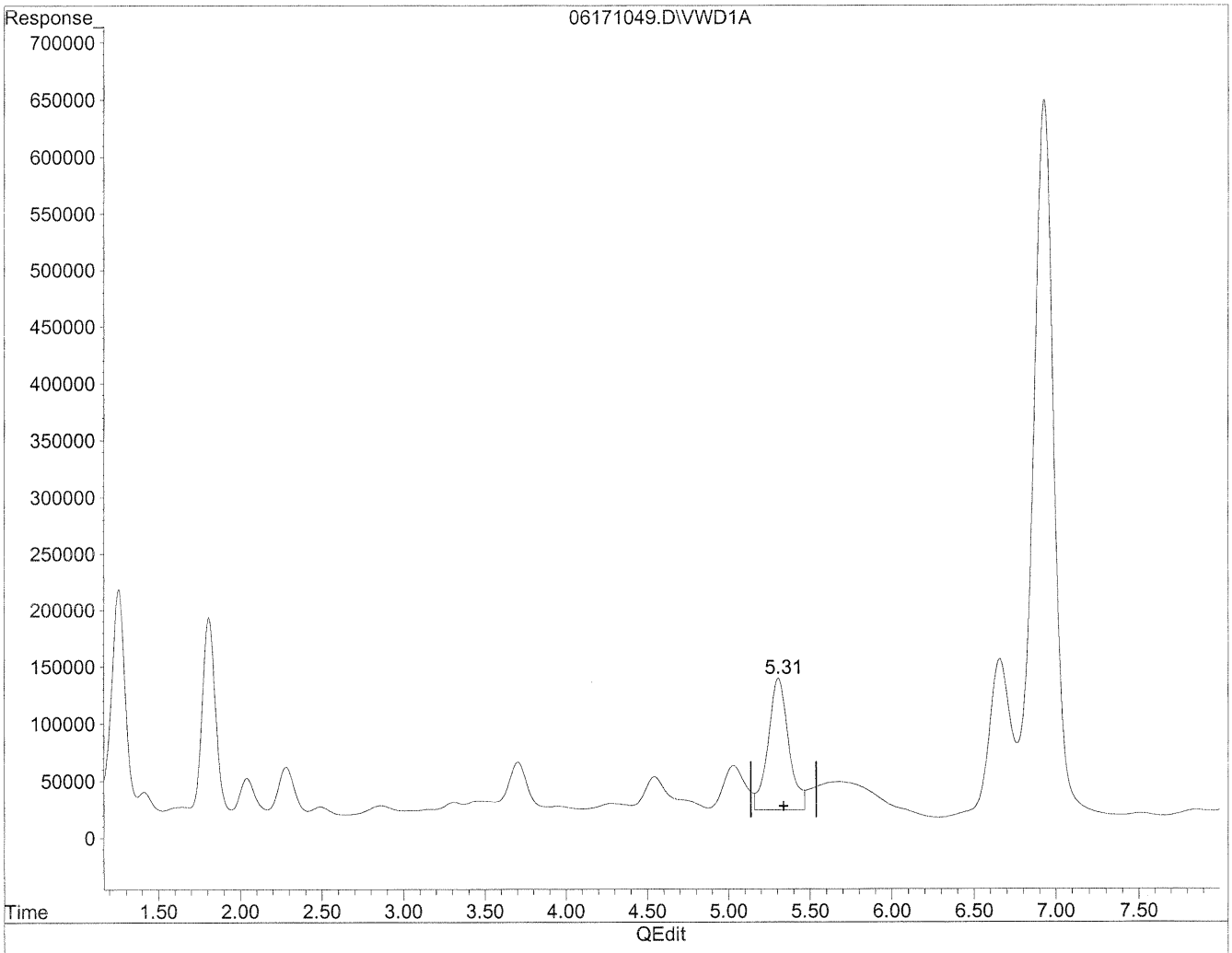
(+) = Expected Retention Time

06171049.D TO110510.M Fri Jun 18 09:48:12 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54:18 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.31min 2988.685ng/ml m

response 10025886

HC 6/18/10 BC

fix BC see next page. MD 6/21/10

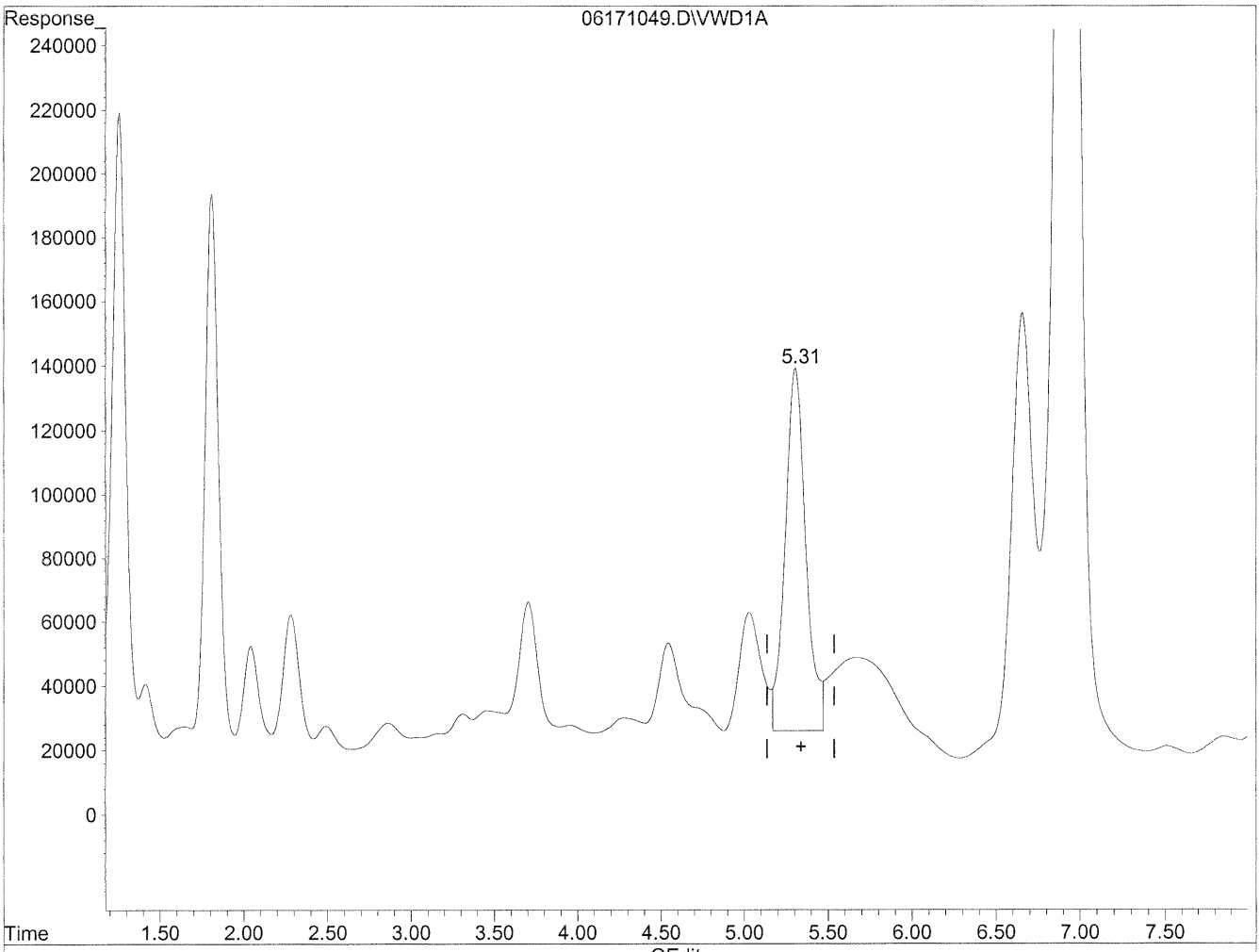
(+) = Expected Retention Time

06171049.D TO110510.M Fri Jun 18 09:49:15 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:49 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.31min 2893.714ng/ml m

response 9707294

fix pr cmp 6/21/10

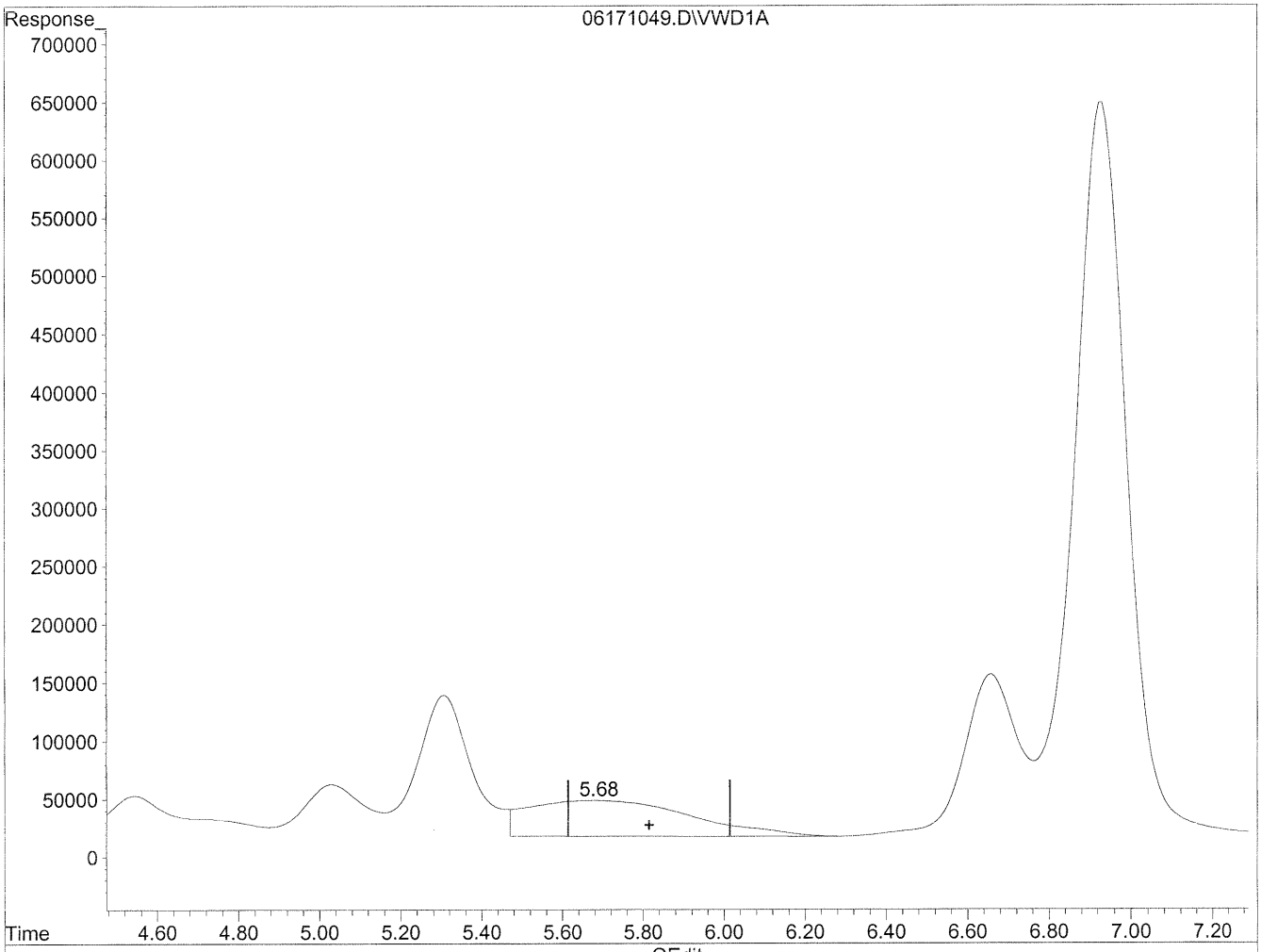
(+) = Expected Retention Time

06171049.D TO110510.M Mon Jun 21 11:50:38 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54:18 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.68min 4277.862ng/ml

response 8707745

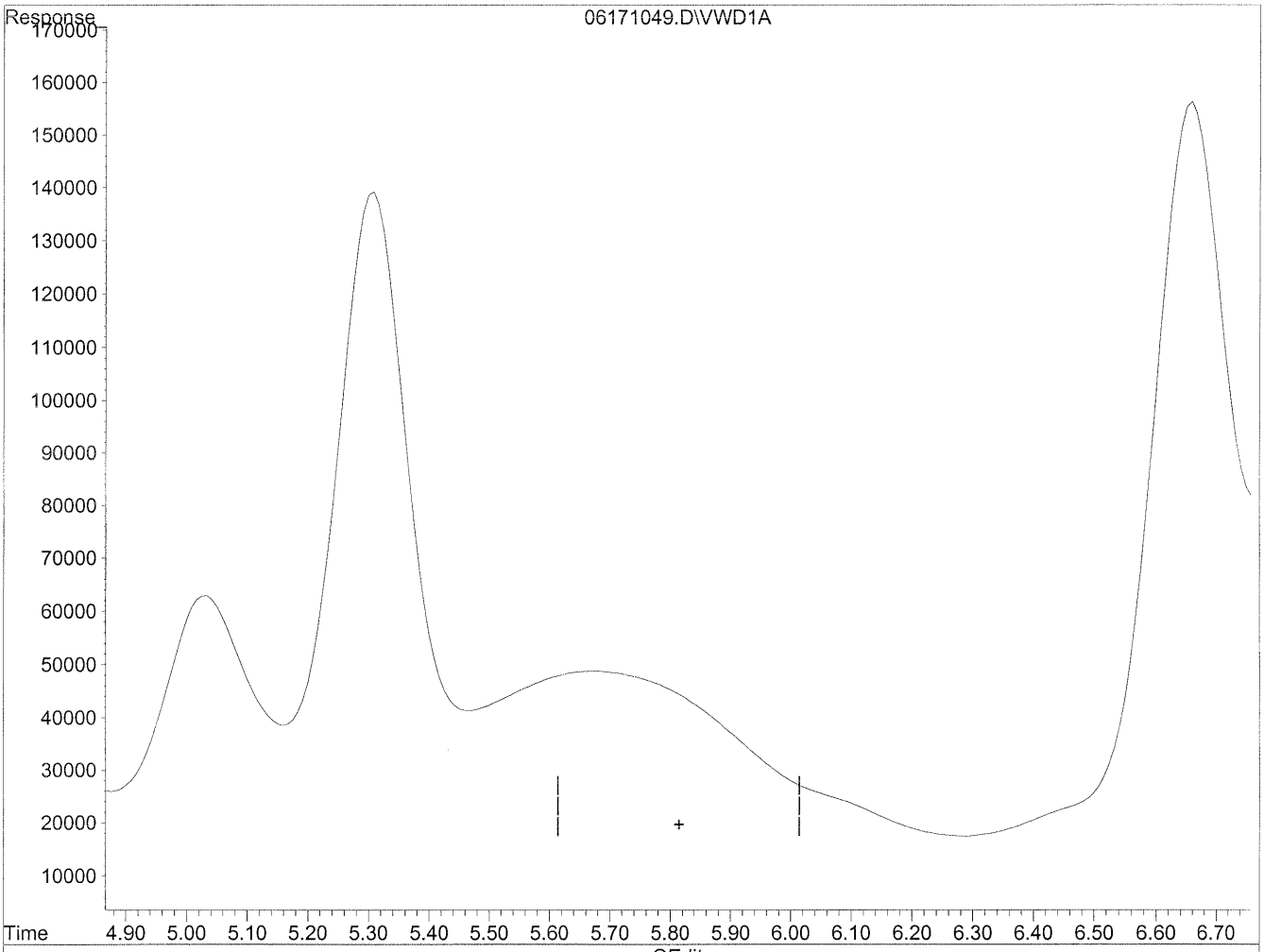
(+) = Expected Retention Time

06171049.D TO110510.M Fri Jun 18 09:49:19 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171049.D Vial: 135
Acq On : 17-Jun-2010, 17:54:18 Operator: HC/SM
Sample : P1001953-022 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

0.00min 0.000ng/ml d

response 0

6/18/10 MP

6/21/10

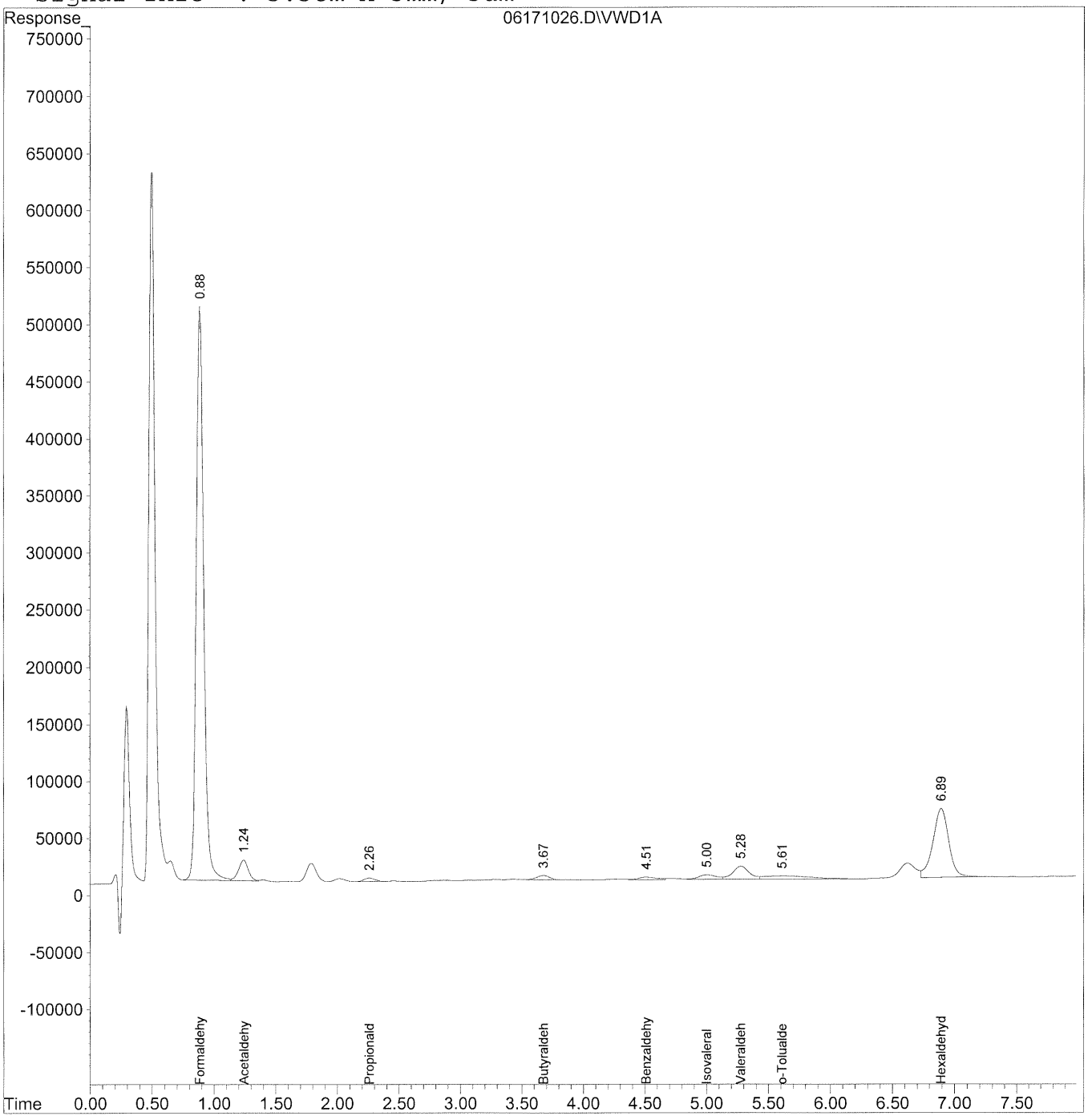
(+) = Expected Retention Time

06171049.D TO110510.M Fri Jun 18 09:49:23 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171026.D Vial: 120
Acq On : 17-Jun-2010, 13:55:45 Operator: HC/SM
Sample : P1001953-022 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:19 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171026.D Vial: 120
Acq On : 17-Jun-2010, 13:55:45 Operator: HC/SM
Sample : P1001953-022 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:19 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

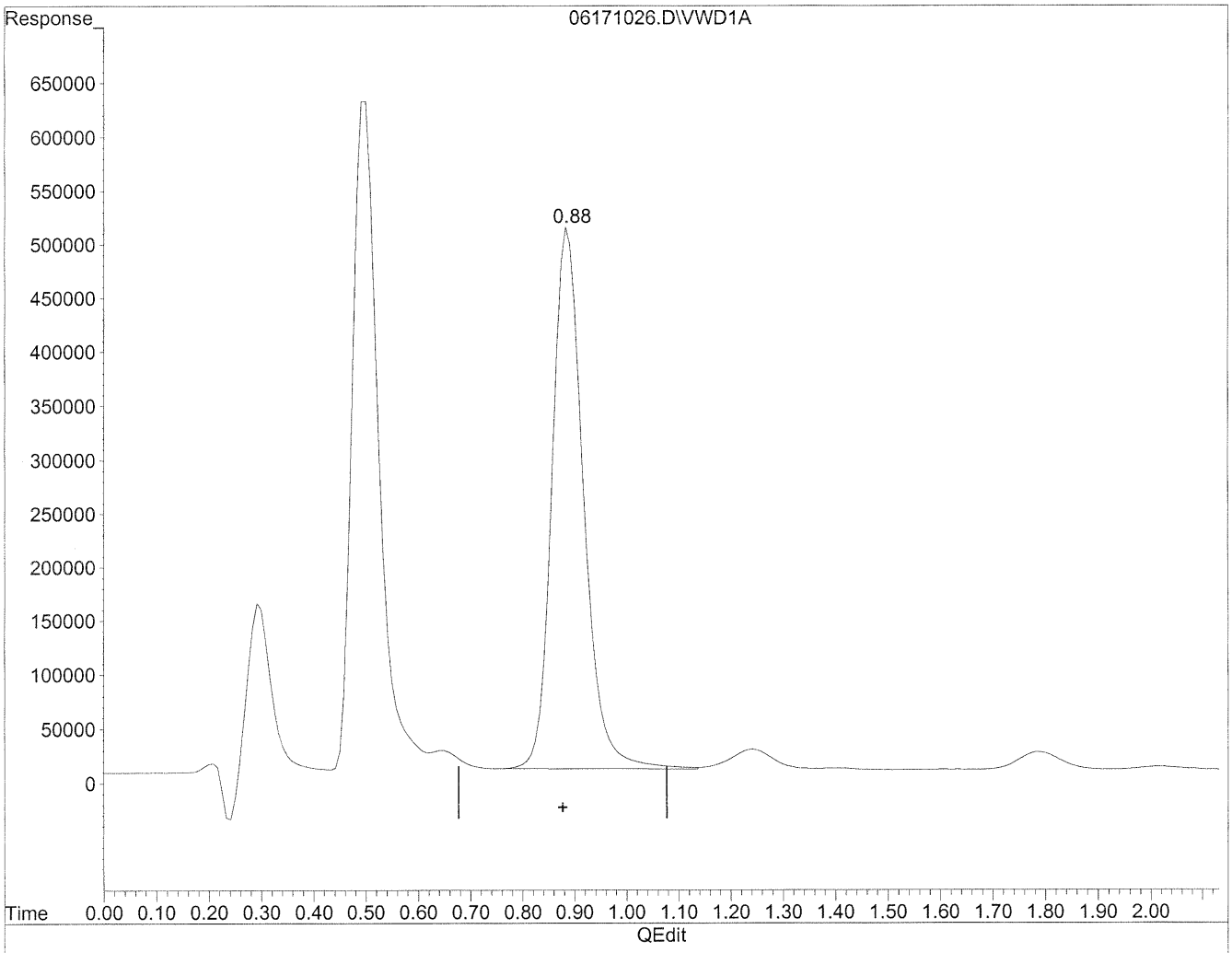
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	21080981	2258.788	ng/ml
2)	Acetaldehyde	1.24	1007980	149.658	ng/ml
3)	Propionaldehyde	2.26	186239	38.305	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.68	274036	68.011	ng/ml
6)	Benzaldehyde	4.52	223175	82.452	ng/ml
7)	Isovaleraldehyde	5.00	394682	111.250	ng/ml
8)	Valeraldehyde	5.28	1057109	315.121	ng/ml
9)	o-Tolualdehyde	5.61	726234	356.777	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.90	5312607	1847.624	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171026.D Vial: 120
Acq On : 17-Jun-2010, 13:55:45 Operator: HC/SM
Sample : P1001953-022 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:19 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 2258.788ng/ml

response 21080981

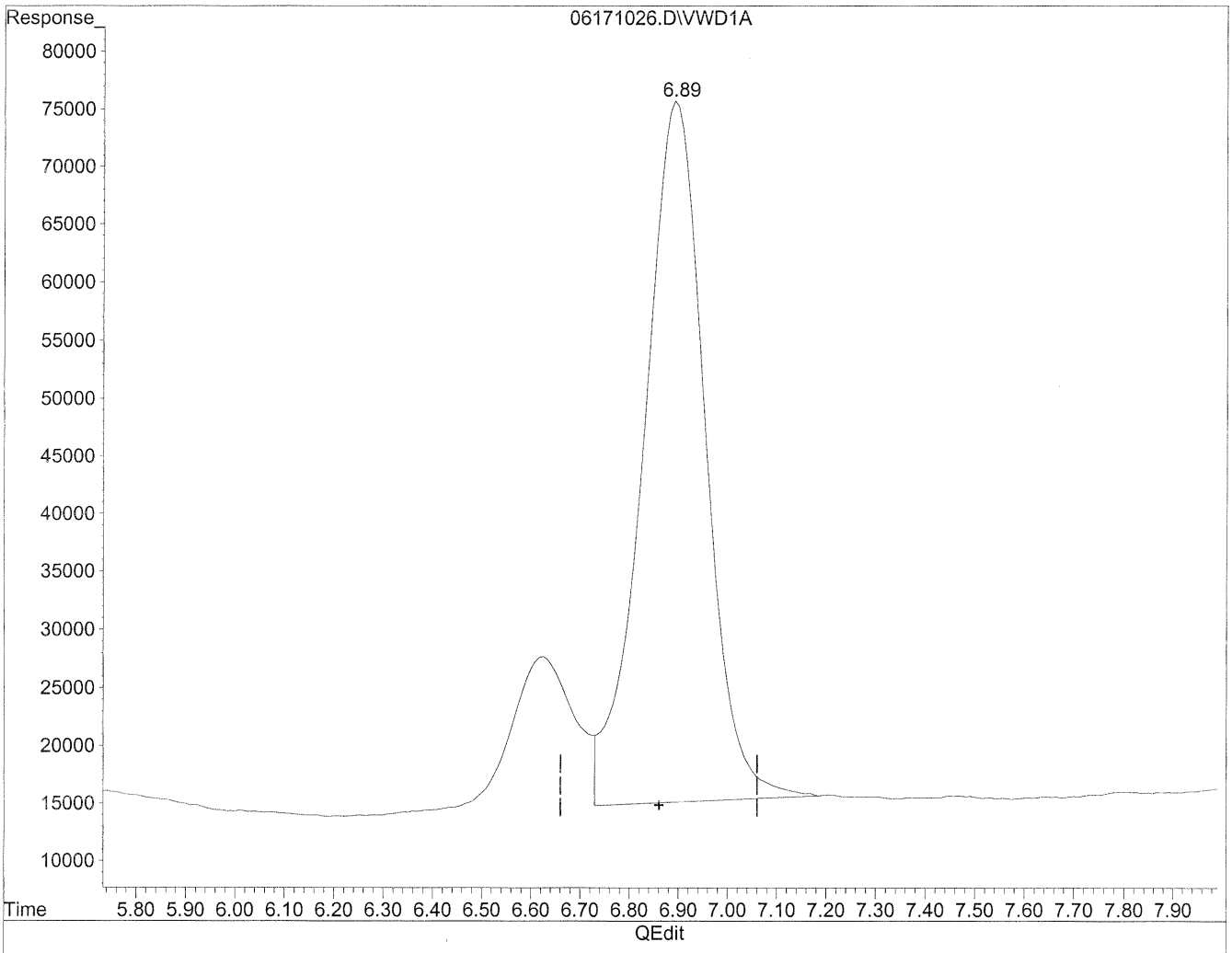
(+) = Expected Retention Time

06171026.D TO110510.M Fri Jun 18 08:27:40 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171026.D Vial: 120
Acq On : 17-Jun-2010, 13:55:45 Operator: HC/SM
Sample : P1001953-022 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:19 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.90min 1847.624ng/ml

response 5312607

(+) = Expected Retention Time

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111030**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-023

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 21075 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**3.0**	**1.5**	0.096	**1.2**	0.078	
75-07-0	**Acetaldehyde**	**0.75**	**0.42**	0.11	**0.24**	0.063	
123-38-6	Propionaldehyde	< 0.20	ND	0.24	ND	0.10	
123-72-8	**Butyraldehyde**	**0.29**	**1.2**	0.86	**0.42**	0.29	
100-52-7	Benzaldehyde	< 0.20	ND	0.10	ND	0.024	
590-86-3	**Isovaleraldehyde**	**0.32**	**0.25**	0.16	**0.071**	0.044	
110-62-3	**Valeraldehyde**	**0.21**	**0.36**	0.35	**0.10**	0.10	
66-25-1	**n-Hexaldehyde**	**0.31**	**0.81**	0.53	**0.20**	0.13	

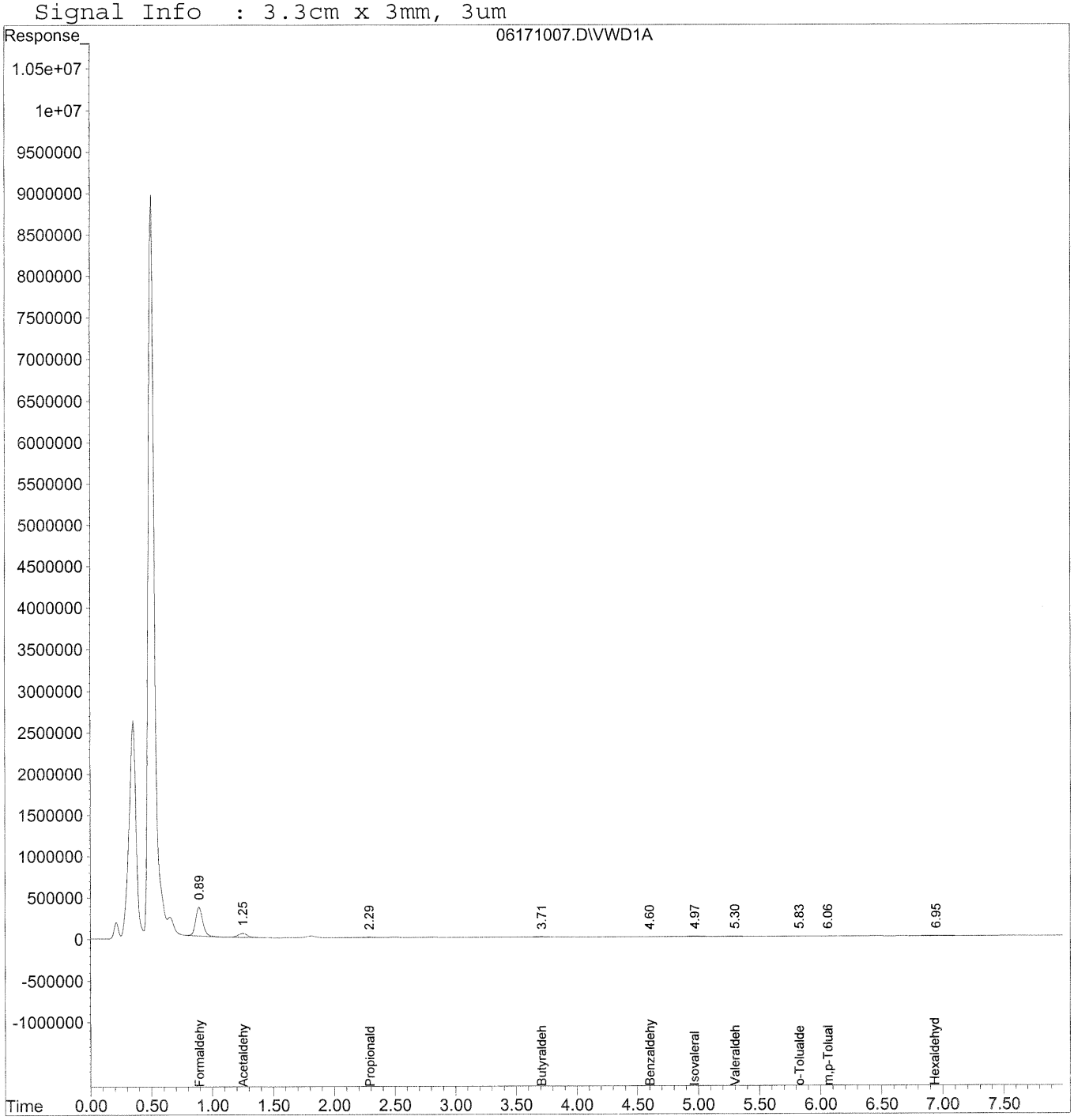
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: RC Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171007.D Vial: 105
Acq On : 17-Jun-2010, 10:37:10 Operator: HC/SM
Sample : P1001953-023 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:36 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171007.D Vial: 105
Acq On : 17-Jun-2010, 10:37:10 Operator: HC/SM
Sample : P1001953-023 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:36 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

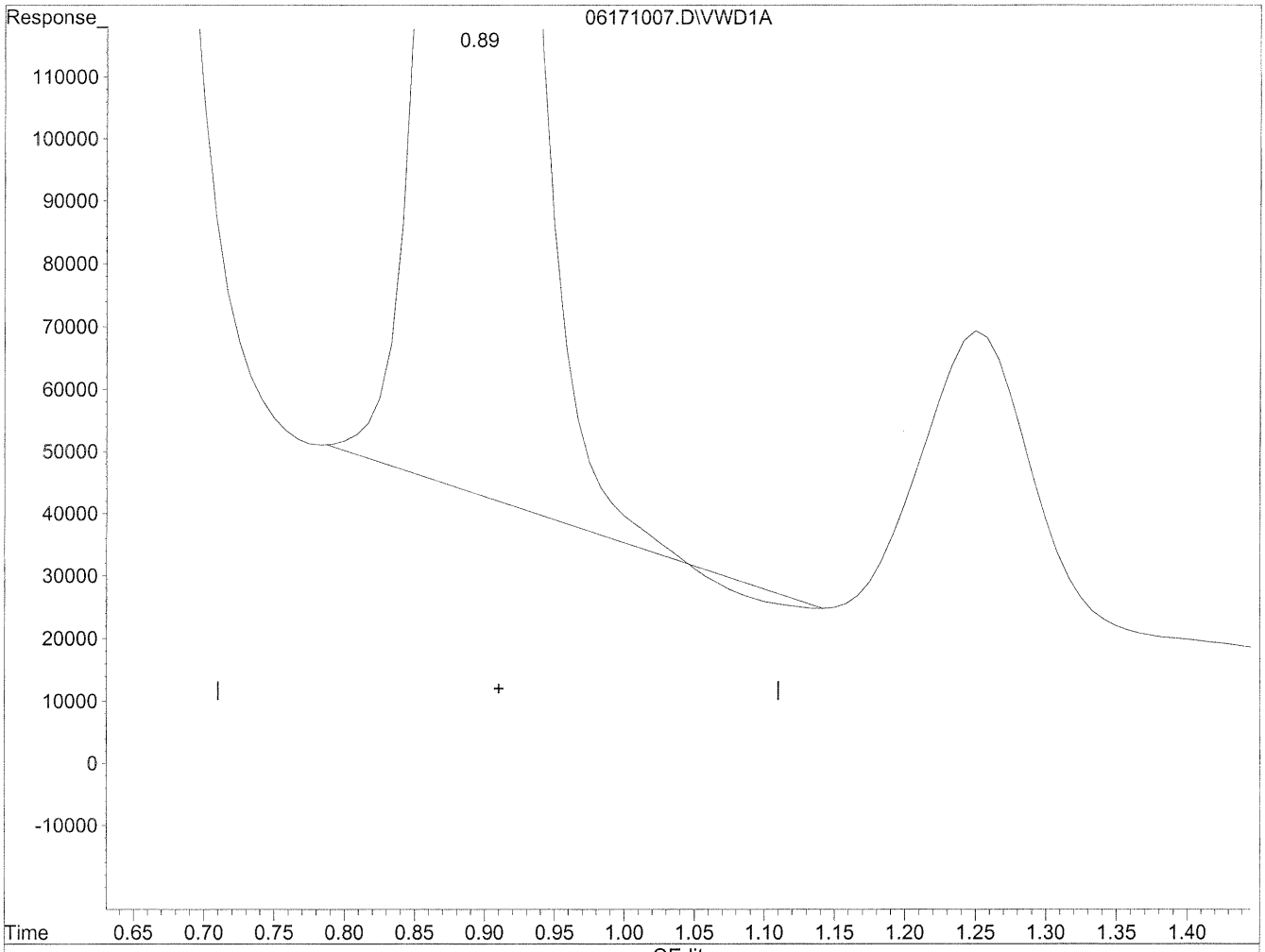
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	14150811	1516.233	ng/mlm
2)	Acetaldehyde	1.25	2528814	375.461	ng/mlm
3)	Propionaldehyde	2.29	369523	76.002	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.71	577691	143.373	ng/mlm
6)	Benzaldehyde	4.60	59081	21.828	ng/ml
7)	Isovaleraldehyde	4.97f	566625	159.716	ng/ml
8)	Valeraldehyde	5.30	345599	103.022	ng/ml
9)	o-Tolualdehyde	5.83	21273	10.451	ng/ml
10)	m,p-Tolualdehyde	6.06	51484	21.977	ng/ml
11)	Hexaldehyde	6.94	440717	153.273	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171007.D Vial: 105
Acq On : 17-Jun-2010, 10:37:10 Operator: HC/SM
Sample : P1001953-023 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 1487.378ng/ml

response 13881516

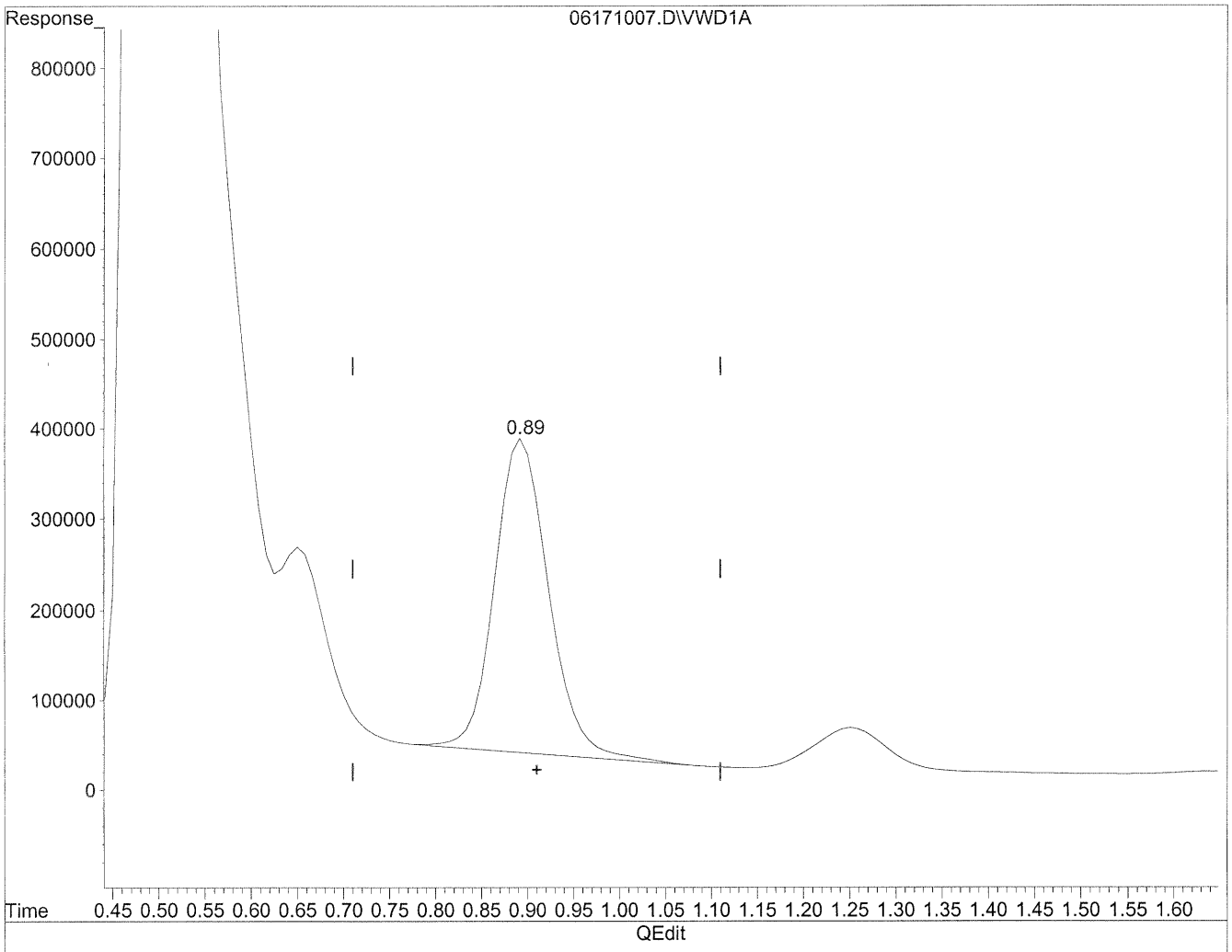
(+) = Expected Retention Time

06171007.D TO110510.M Thu Jun 17 16:33:48 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171007.D Vial: 105
Acq On : 17-Jun-2010, 10:37:10 Operator: HC/SM
Sample : P1001953-023 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 1516.233ng/ml m

response 14150811

HC 6/18/10
BC
6/21/10

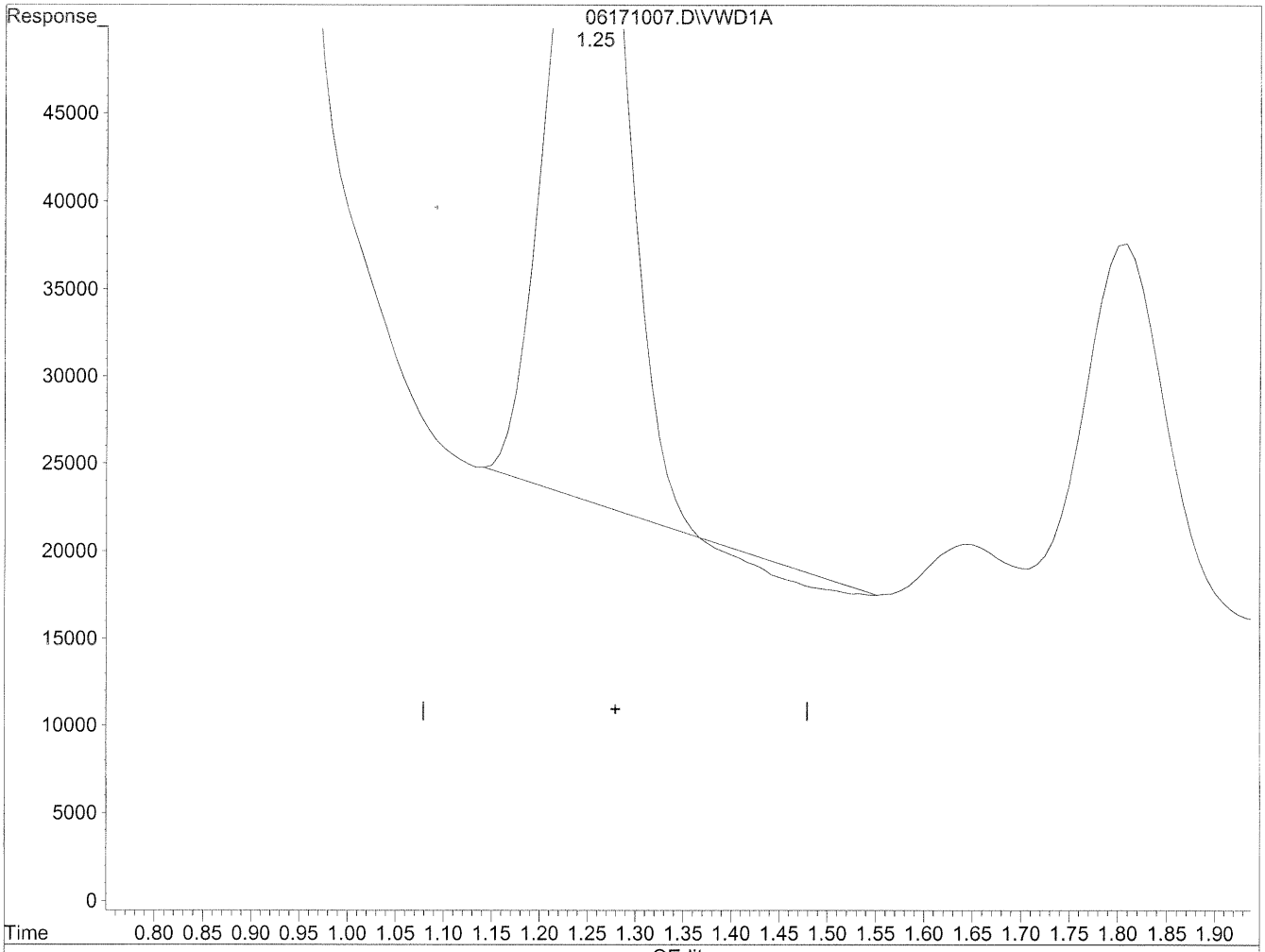
(+) = Expected Retention Time

06171007.D TO110510.M Thu Jun 17 16:35:15 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171007.D Vial: 105
Acq On : 17-Jun-2010, 10:37:10 Operator: HC/SM
Sample : P1001953-023 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.25min 359.732ng/ml

response 2422879

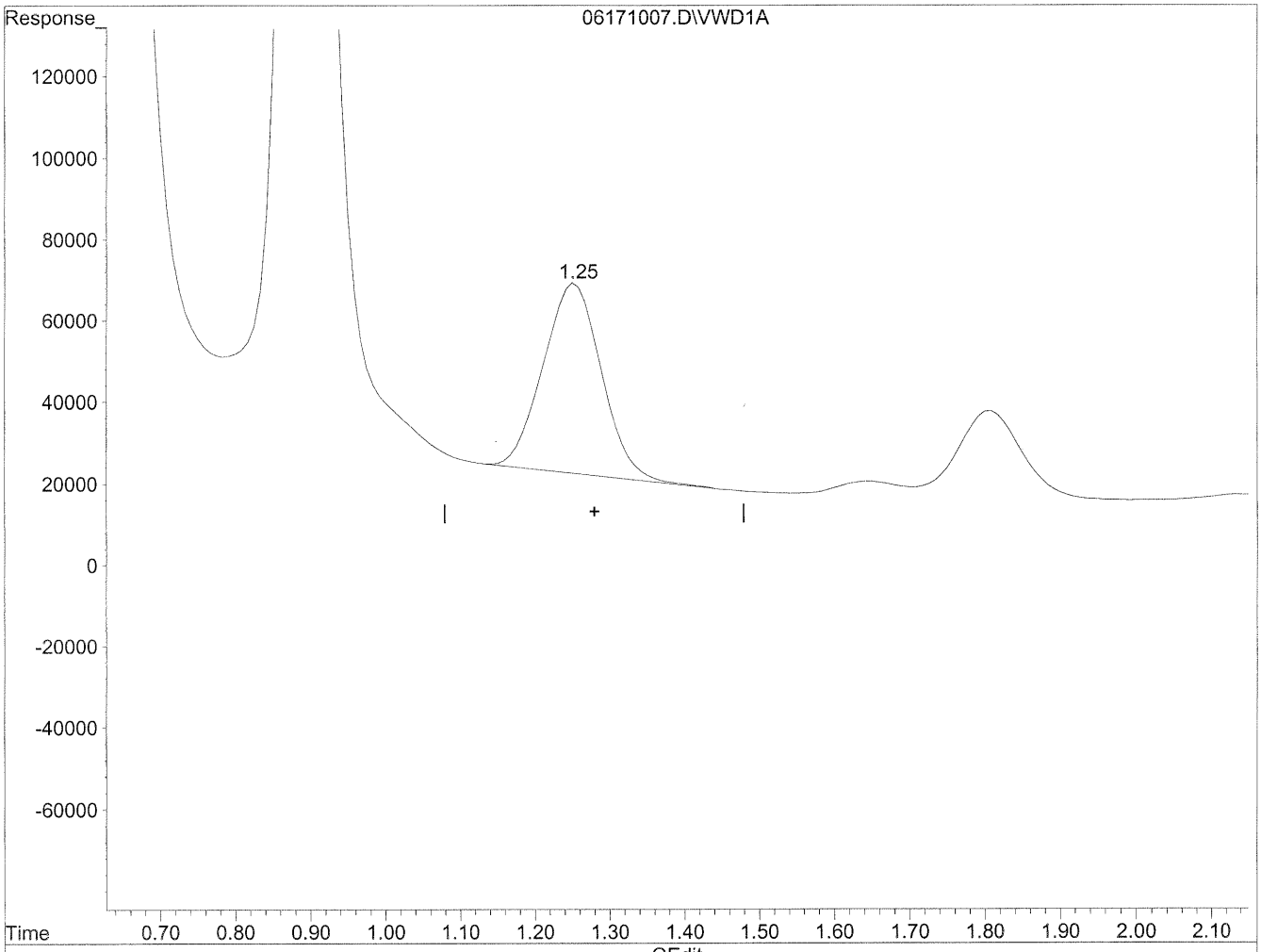
(+) = Expected Retention Time

06171007.D TO110510.M Thu Jun 17 16:35:23 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171007.D Vial: 105
Acq On : 17-Jun-2010, 10:37:10 Operator: HC/SM
Sample : P1001953-023 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.25min 375.461ng/ml m

response 2528814

6/21/10 HC 6/18/10 IC

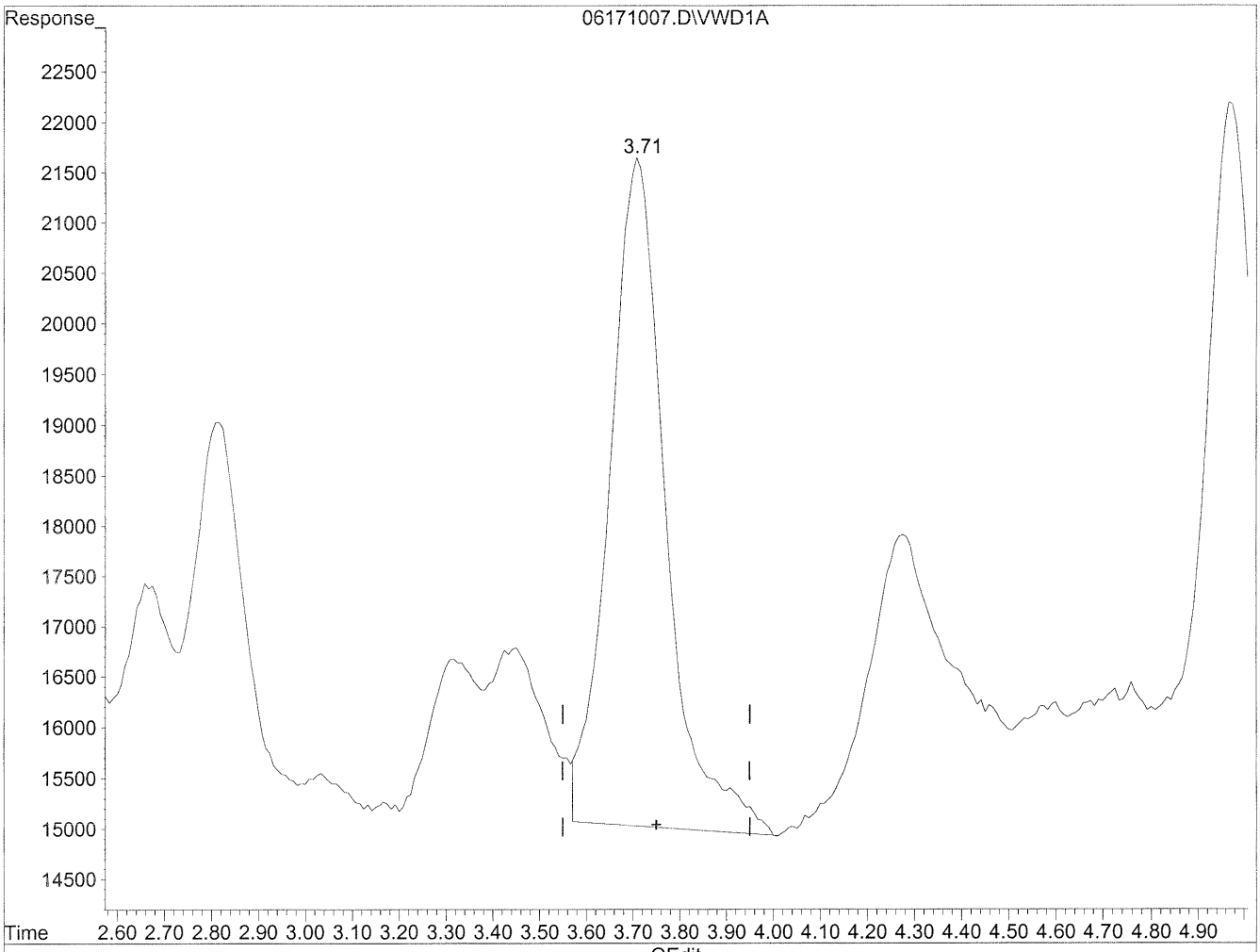
(+) = Expected Retention Time

06171007.D TO110510.M Thu Jun 17 16:35:41 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171007.D Vial: 105
Acq On : 17-Jun-2010, 10:37:10 Operator: HC/SM
Sample : P1001953-023 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.71min 137.501ng/ml

response 554035

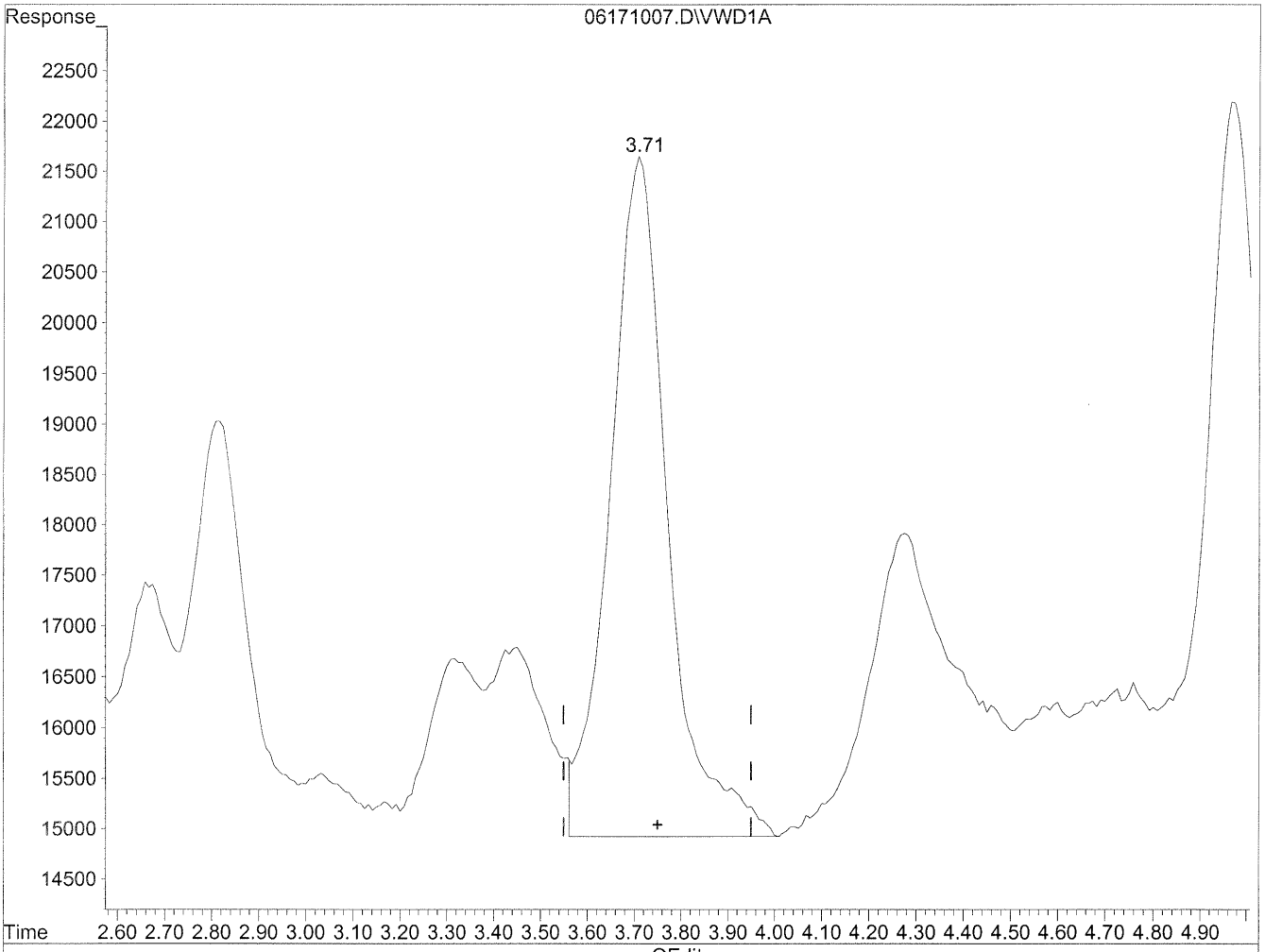
(+) = Expected Retention Time

06171007.D TO110510.M Thu Jun 17 16:35:48 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171007.D Vial: 105
Acq On : 17-Jun-2010, 10:37:10 Operator: HC/SM
Sample : P1001953-023 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.71min 143.373ng/ml m

response 577691

HC 6/18/10
BC

SP 6/21/10

(+) = Expected Retention Time

06171007.D TO110510.M Thu Jun 17 16:36:03 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111031**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-024

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/18/10
Desorption Volume: 2.0 ml
Sampling Time: NA Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**0.33**	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 0.20	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 0.20	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 0.20	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 0.20	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 0.20	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 0.20	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 0.20	NA	NA	NA	NA	

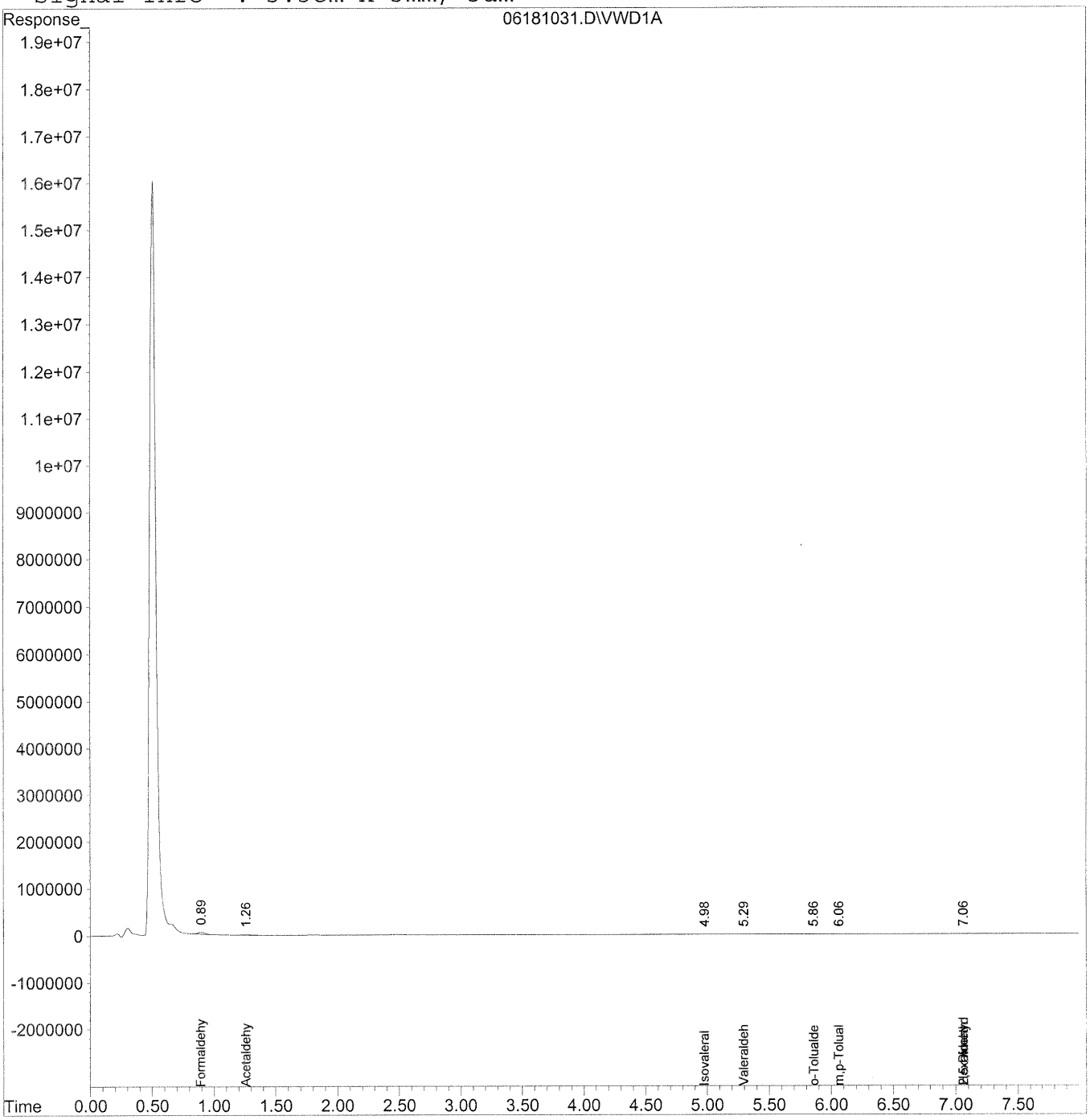
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: RG Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181031.D Vial: 124
Acq On : 18-Jun-2010, 14:22:38 Operator: HC/SM
Sample : P1001953-024 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:25 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181031.D Vial: 124
Acq On : 18-Jun-2010, 14:22:38 Operator: HC/SM
Sample : P1001953-024 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:25 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

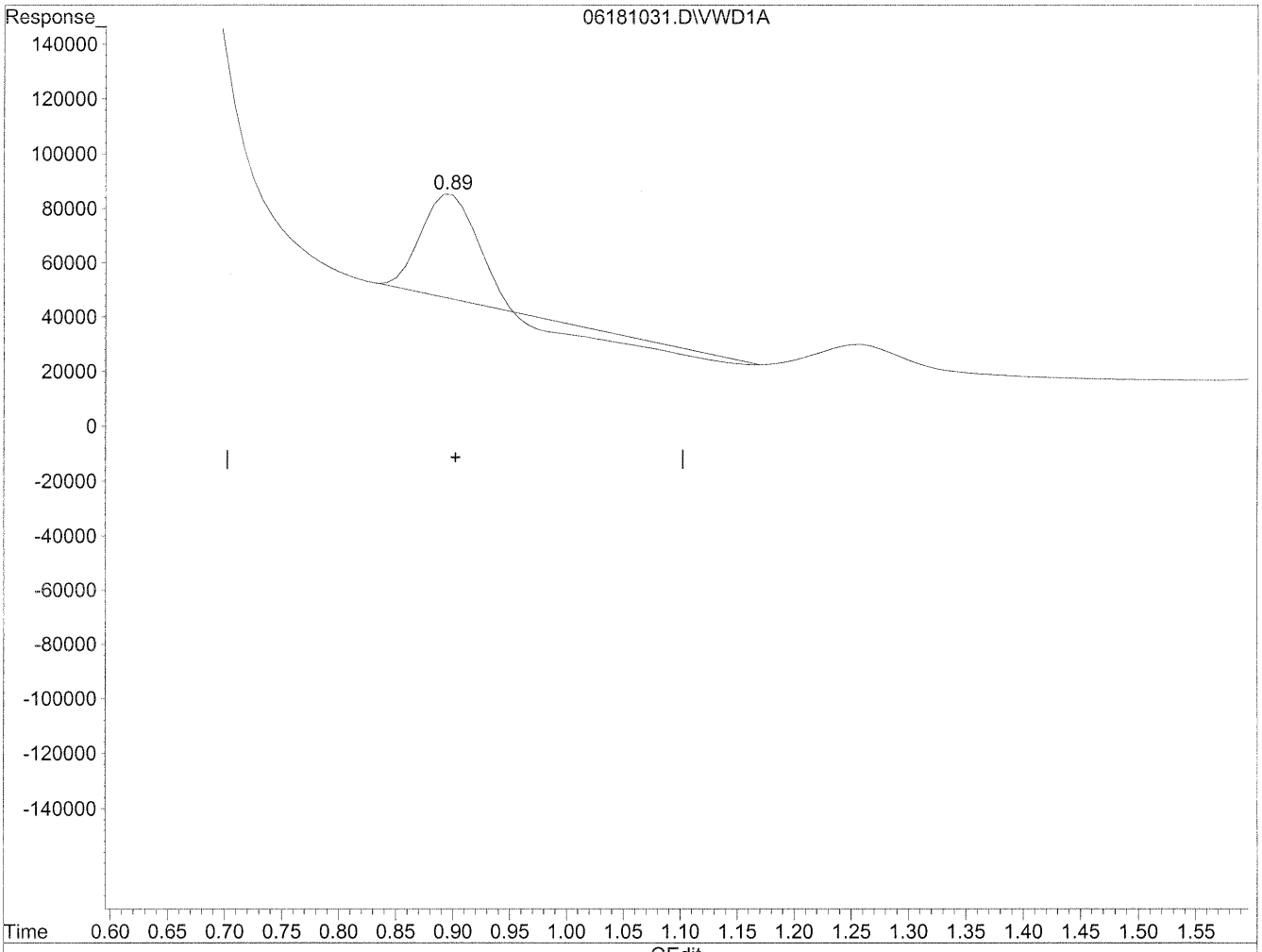
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	1518953	162.753	ng/mlm
2)	Acetaldehyde	1.26	470655	69.880	ng/mlm
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	4.98	60623	17.088	ng/ml
8)	Valeraldehyde	5.30	42494	12.667	ng/ml
9)	o-Tolualdehyde	5.86	21432	10.529	ng/ml
10)	m,p-Tolualdehyde	6.07	64229	27.418	ng/ml
11)	Hexaldehyde	7.06	13768	4.788	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.06f	13768	7.156	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181031.D Vial: 124
Acq On : 18-Jun-2010, 14:22:38 Operator: HC/SM
Sample : P1001953-024 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



QEdit

(1) Formaldehyde

0.90min 111.087ng/ml

response 1036759

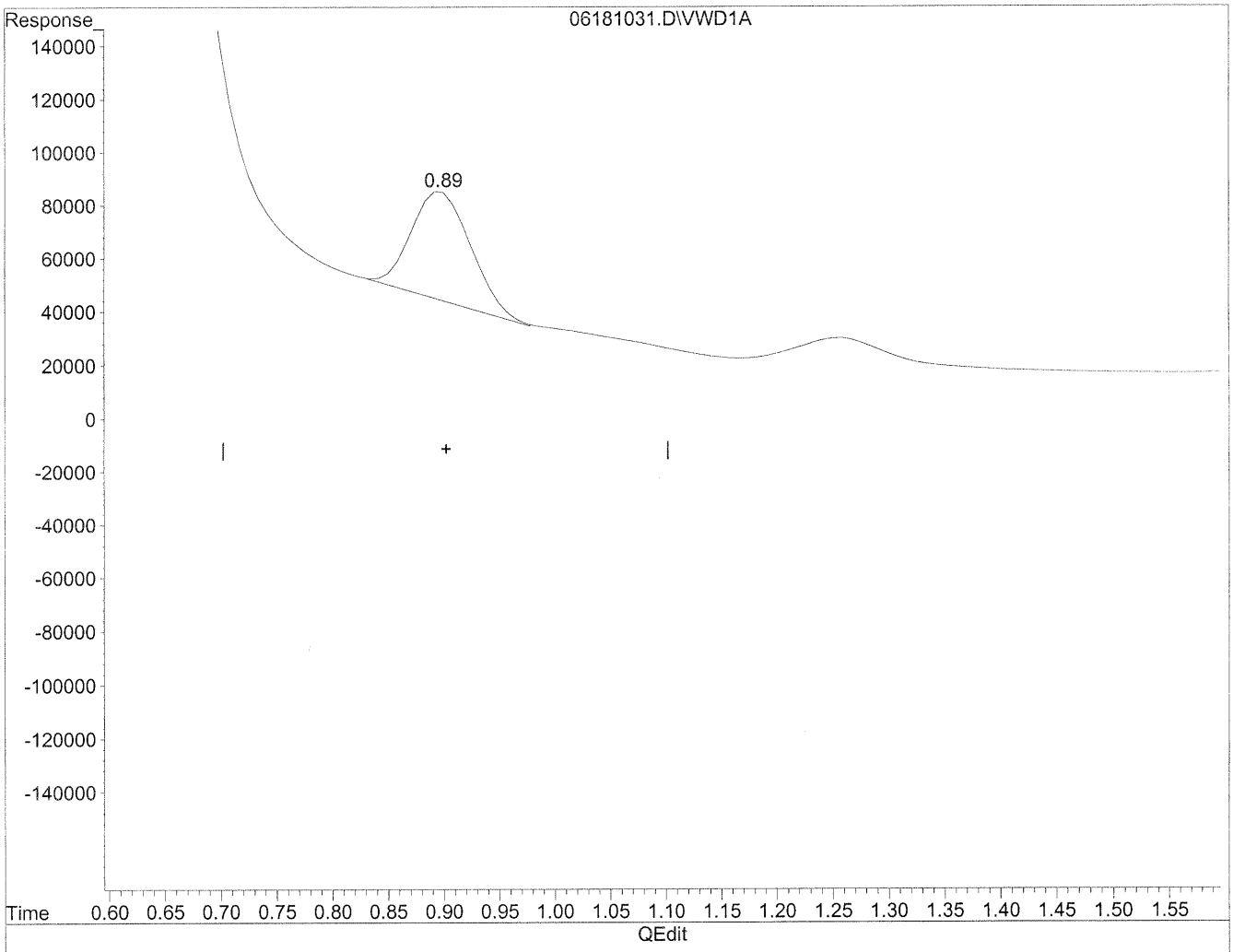
(+) = Expected Retention Time

06181031.D TO110510.M Fri Jun 18 15:24:22 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181031.D Vial: 124
Acq On : 18-Jun-2010, 14:22:38 Operator: HC/SM
Sample : P1001953-024 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



QEdit

(1) Formaldehyde

0.89min 162.753ng/ml m

response 1518953

6/21/10 HC 6/18/10 LC

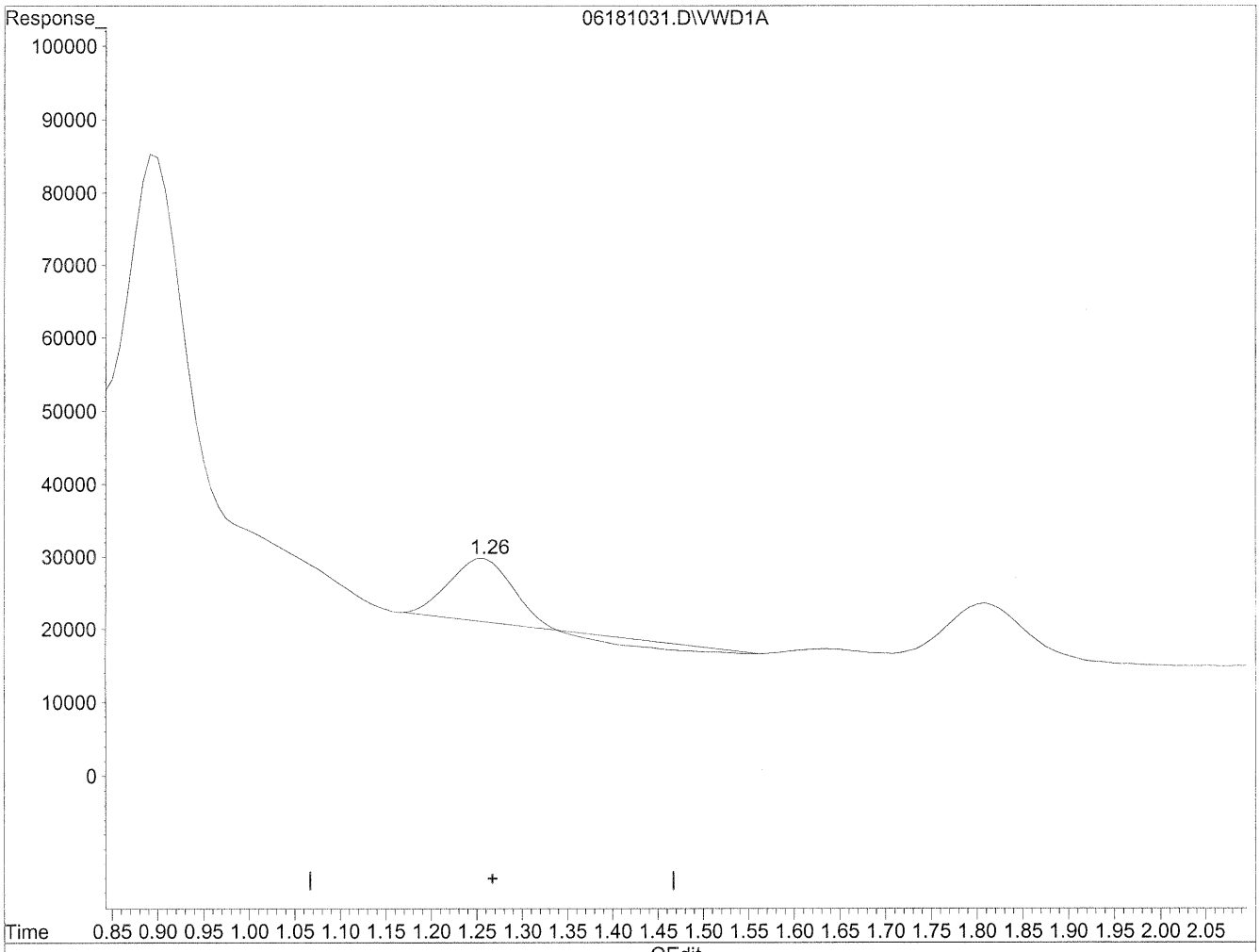
(+) = Expected Retention Time

06181031.D TO110510.M Fri Jun 18 15:24:41 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181031.D Vial: 124
Acq On : 18-Jun-2010, 14:22:38 Operator: HC/SM
Sample : P1001953-024 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.26min 51.747ng/ml

response 348529

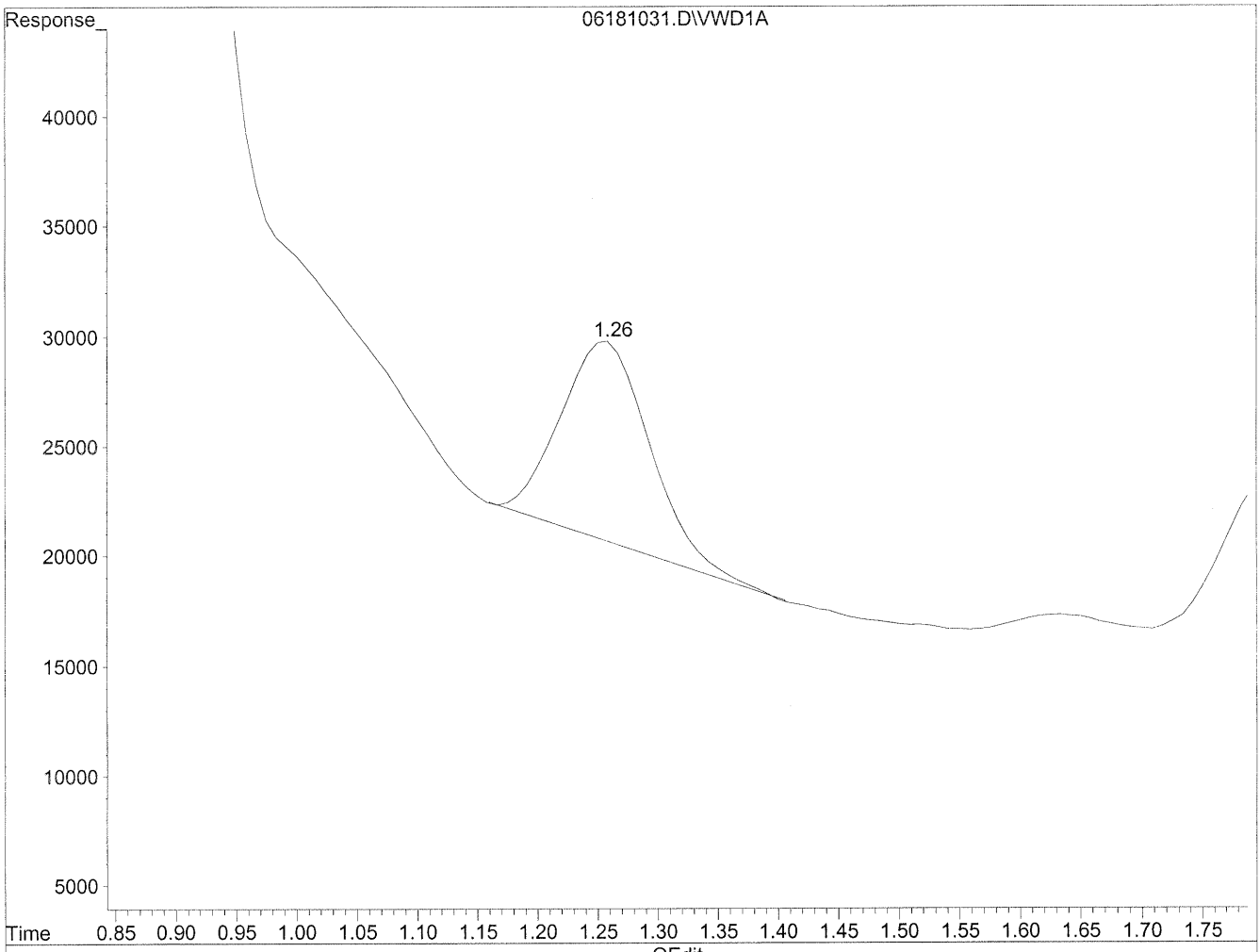
(+) = Expected Retention Time

06181031.D TO110510.M Fri Jun 18 15:24:52 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181031.D Vial: 124
Acq On : 18-Jun-2010, 14:22:38 Operator: HC/SM
Sample : P1001953-024 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.26min 69.880ng/ml m

response 470655

6/21/10

6/18/10

(+) = Expected Retention Time

06181031.D TO110510.M Fri Jun 18 15:25:02 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111006**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-025

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 21125 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**64**	**30**	0.096	**25**	0.078	
75-07-0	**Acetaldehyde**	**1.7**	**0.97**	0.11	**0.54**	0.063	
123-38-6	**Propionaldehyde**	**0.59**	**0.72**	0.24	**0.30**	0.10	
123-72-8	**Butyraldehyde**	**1.3**	**5.7**	0.86	**1.9**	0.29	
100-52-7	**Benzaldehyde**	**2.8**	**1.4**	0.10	**0.33**	0.024	
590-86-3	**Isovaleraldehyde**	**1.0**	**0.79**	0.16	**0.22**	0.044	
110-62-3	**Valeraldehyde**	**4.1**	**7.1**	0.35	**2.0**	0.10	
66-25-1	**n-Hexaldehyde**	**27**	**71**	0.53	**17**	0.13	

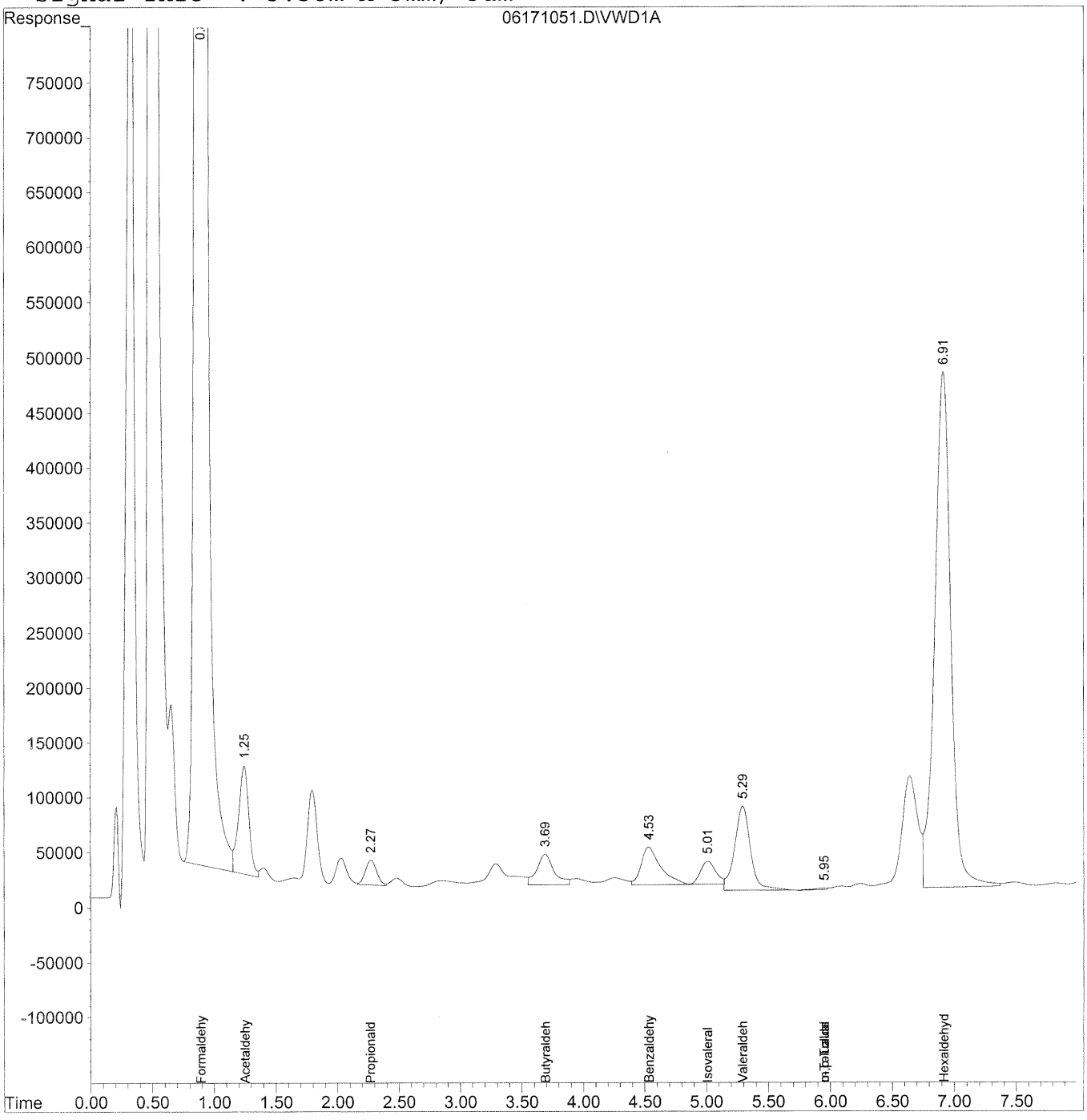
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: RC Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171051.D Vial: 137
Acq On : 17-Jun-2010, 18:15 Operator: HC/SM
Sample : P1001953-025 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:53 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171051.D Vial: 137
Acq On : 17-Jun-2010, 18:15 Operator: HC/SM
Sample : P1001953-025 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:53 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

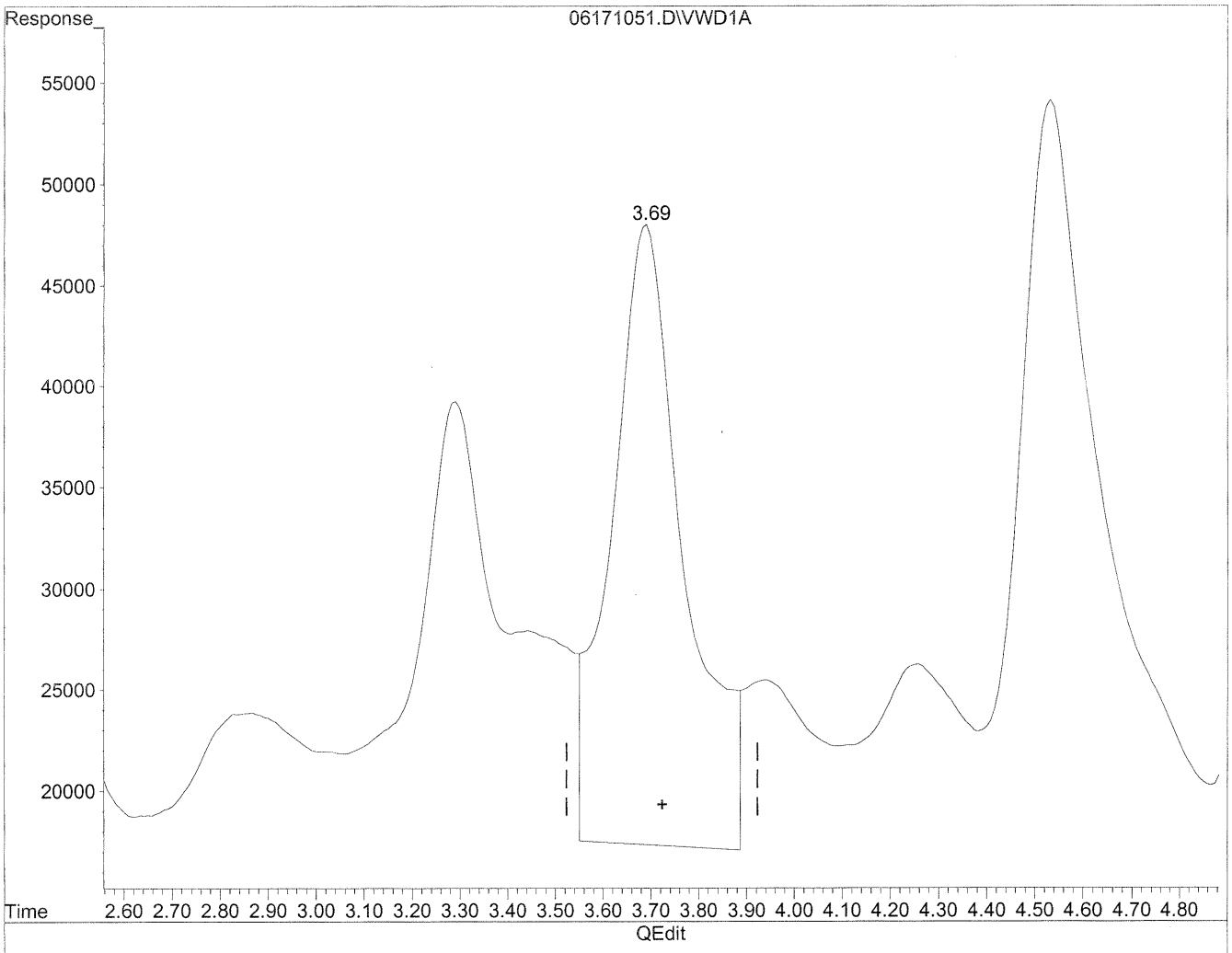
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	298082110	31938.939	ng/ml
2)	Acetaldehyde	1.25	5816116	863.537	ng/ml
3)	Propionaldehyde	2.27	1437031	295.562	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.69	2648154	657.224	ng/mlm
6)	Benzaldehyde	4.53	3740279	1381.848	ng/mlm
7)	Isovaleraldehyde	5.01	1795849	506.200	ng/mlm
8)	Valeraldehyde	5.29	6822599	2033.795	ng/mlm
9)	o-Tolualdehyde	5.96f	101071	49.653	ng/ml
10)	m,p-Tolualdehyde	5.96	101071	43.145	ng/ml
11)	Hexaldehyde	6.92	41571171	14457.661	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171051.D Vial: 137
Acq On : 17-Jun-2010, 18:15:27 Operator: HC/SM
Sample : P1001953-025 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:49 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.69min 806.869ng/ml

response 3251120

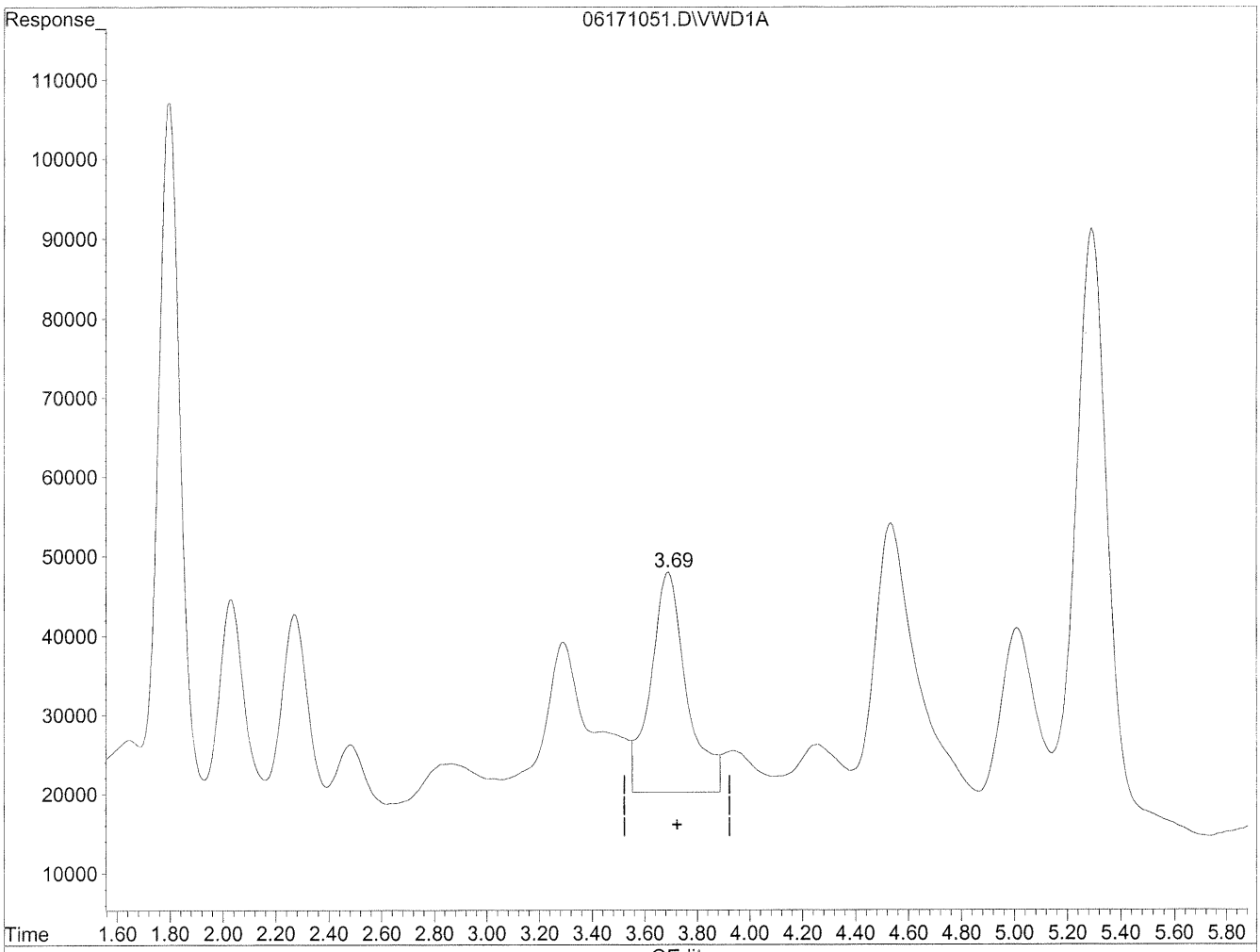
(+) = Expected Retention Time

06171051.D TO110510.M Fri Jun 18 09:54:54 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171051.D Vial: 137
Acq On : 17-Jun-2010, 18:15:27 Operator: HC/SM
Sample : P1001953-025 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:49 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.69min 657.224ng/ml m

response 2648154

HC 6/18/10

RC

6/21/10

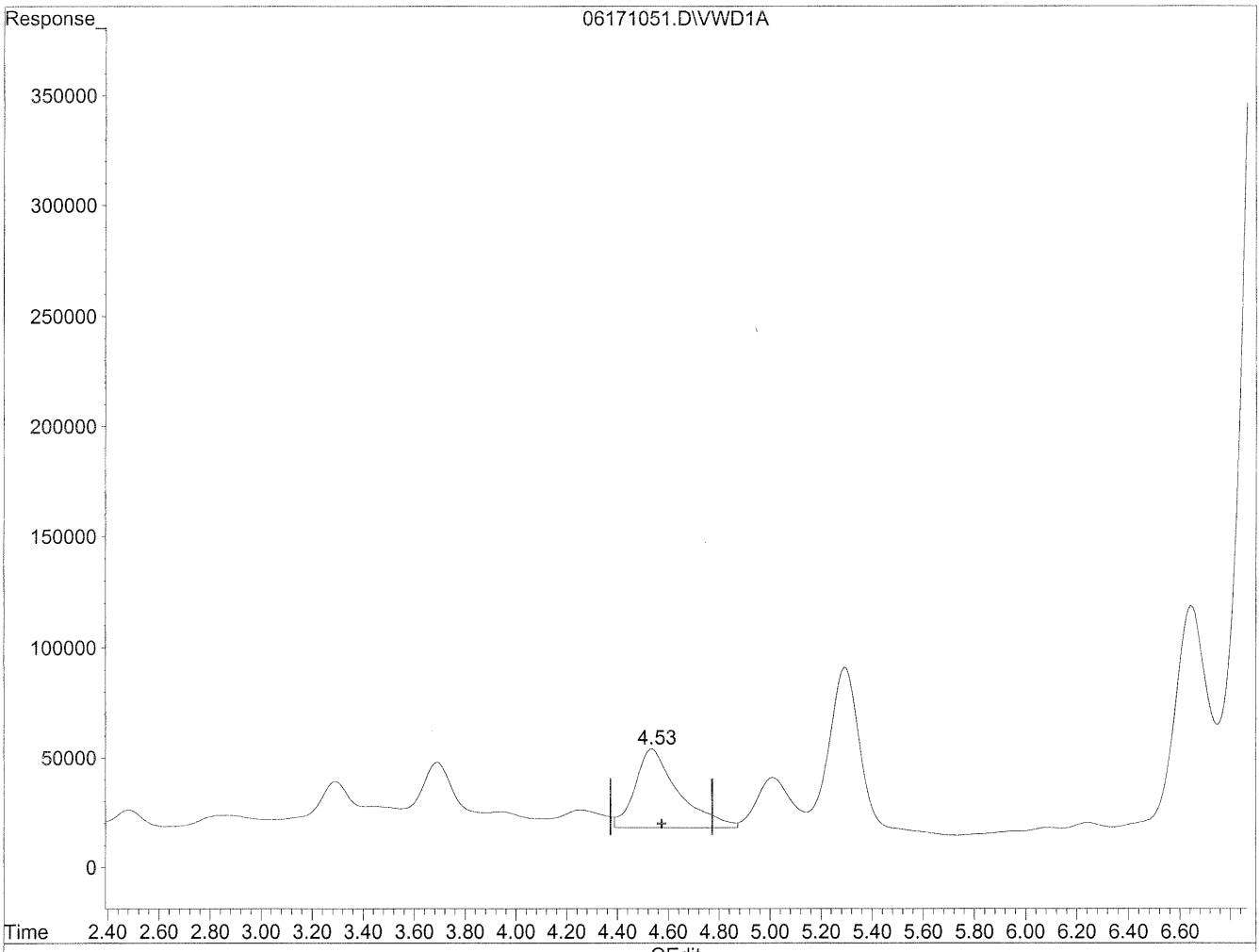
(+) = Expected Retention Time

06171051.D TO110510.M Fri Jun 18 09:55:16 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171051.D Vial: 137
Acq On : 17-Jun-2010, 18:15:27 Operator: HC/SM
Sample : P1001953-025 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:49 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.53min 1563.676ng/ml m

response 4232437

HC 6/18/10
BC
no before
fix BC
per next page.
MD 6/21/10

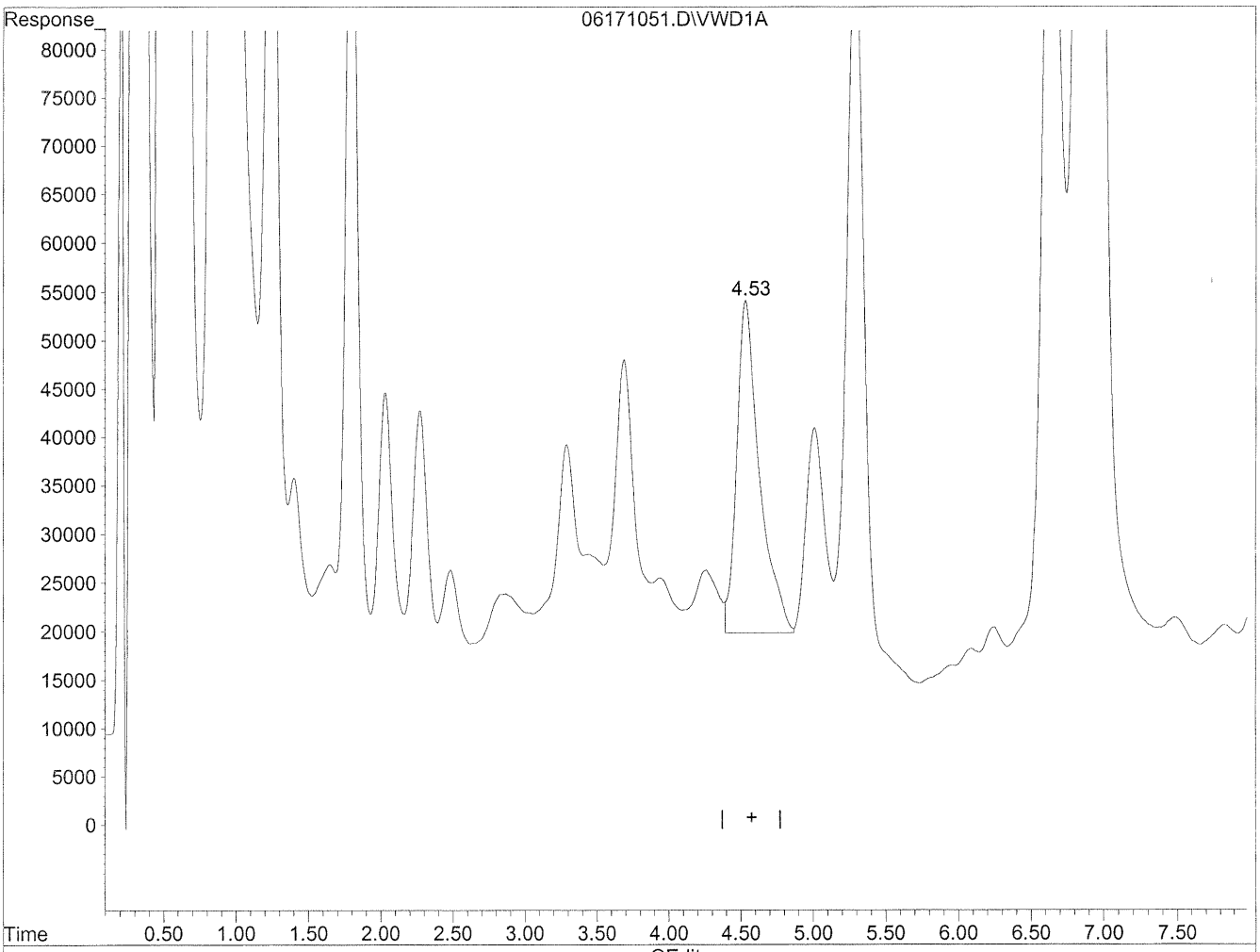
(+) = Expected Retention Time

06171051.D TO110510.M Fri Jun 18 09:55:39 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171051.D Vial: 137
Acq On : 17-Jun-2010, 18:15 Operator: HC/SM
Sample : P1001953-025 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 11:53 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.53min 1381.848ng/ml m

response 3740279

fix

6/21/10

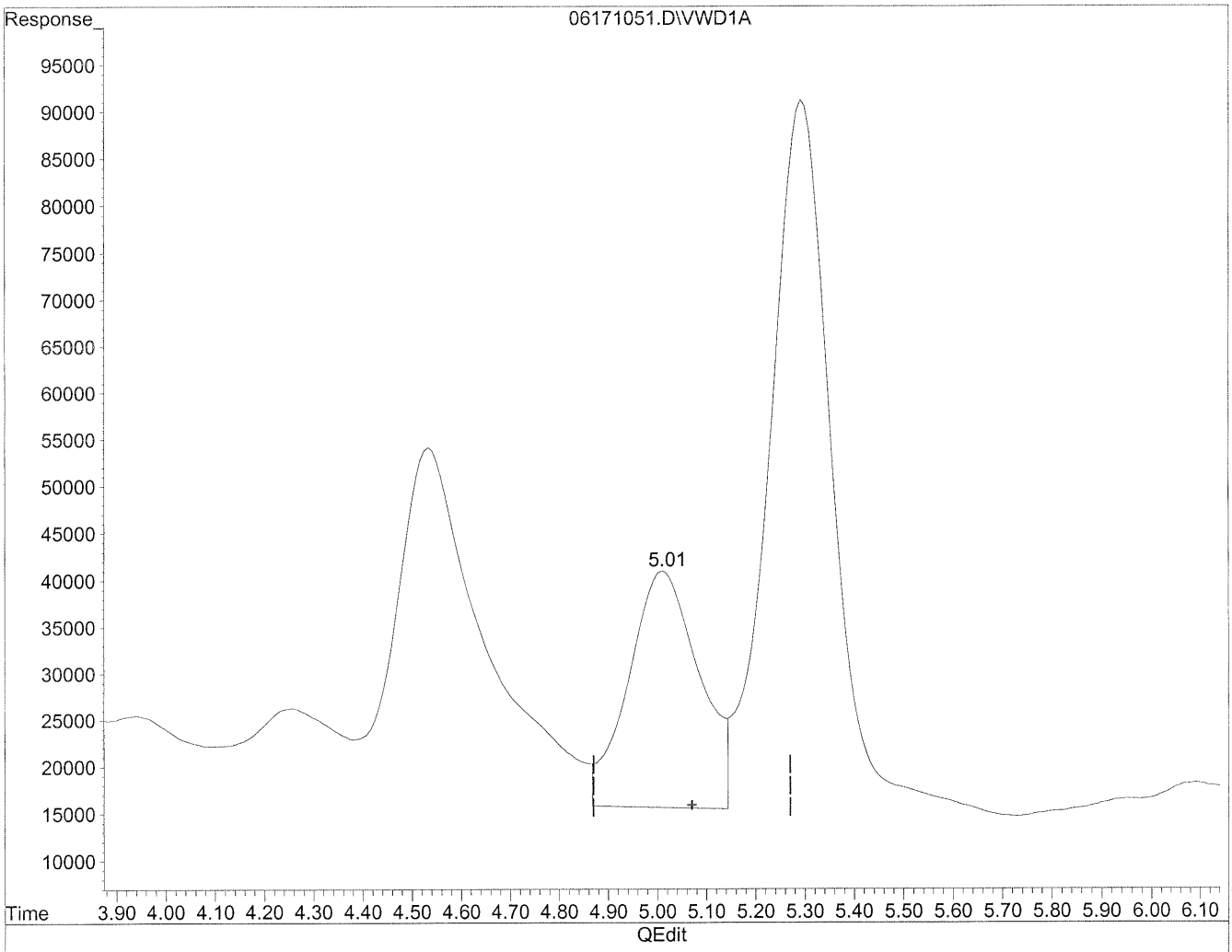
(+) = Expected Retention Time

06171051.D TO110510.M Mon Jun 21 11:54:37 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171051.D Vial: 137
Acq On : 17-Jun-2010, 18:15:27 Operator: HC/SM
Sample : P1001953-025 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:49 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.01min 713.057ng/ml

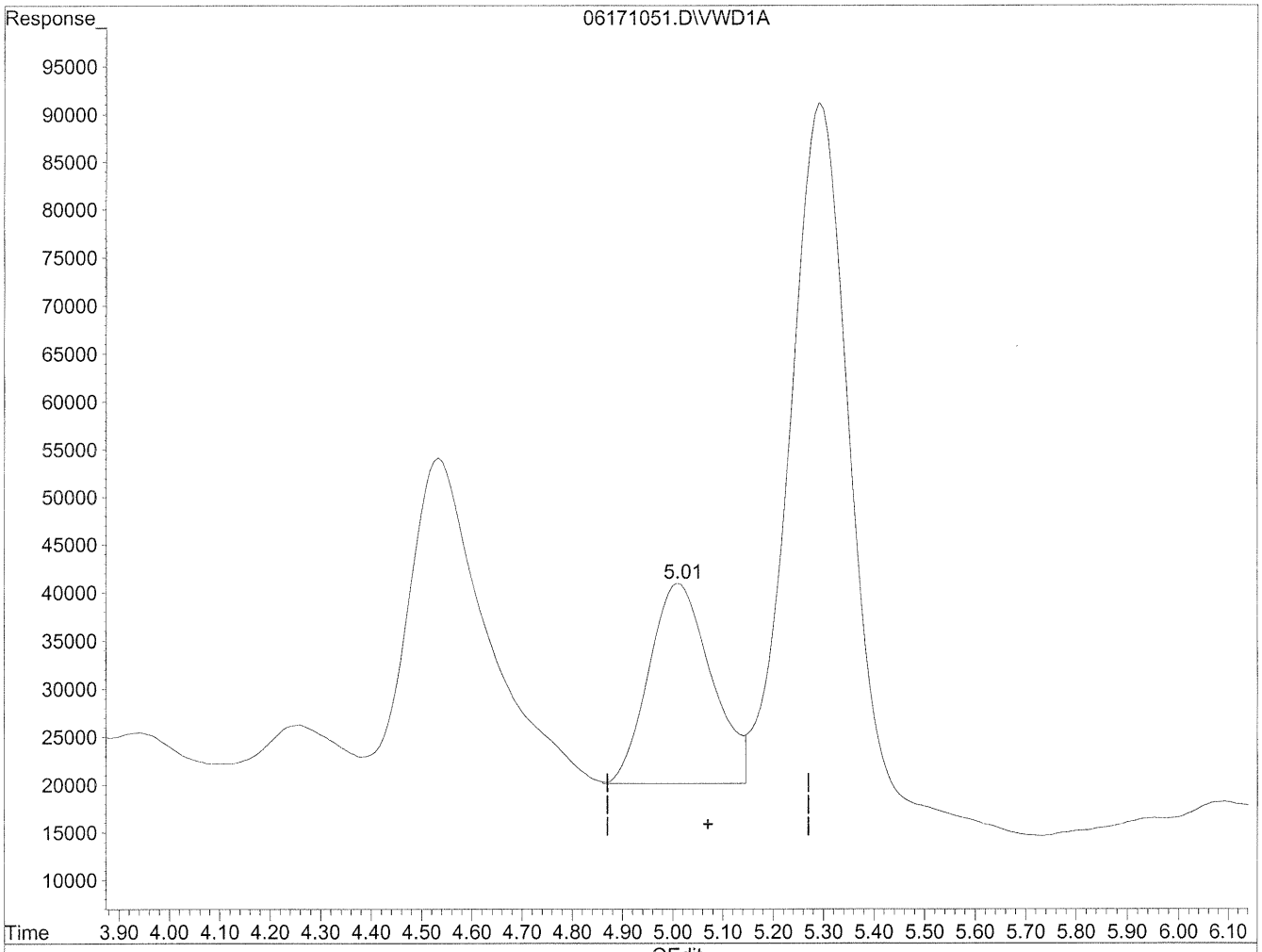
response 2529715

(+) = Expected Retention Time

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171051.D Vial: 137
Acq On : 17-Jun-2010, 18:15:27 Operator: HC/SM
Sample : P1001953-025 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:49 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.01min 506.200ng/ml m

response 1795849

HC 6/18/10 BC 6/21/10

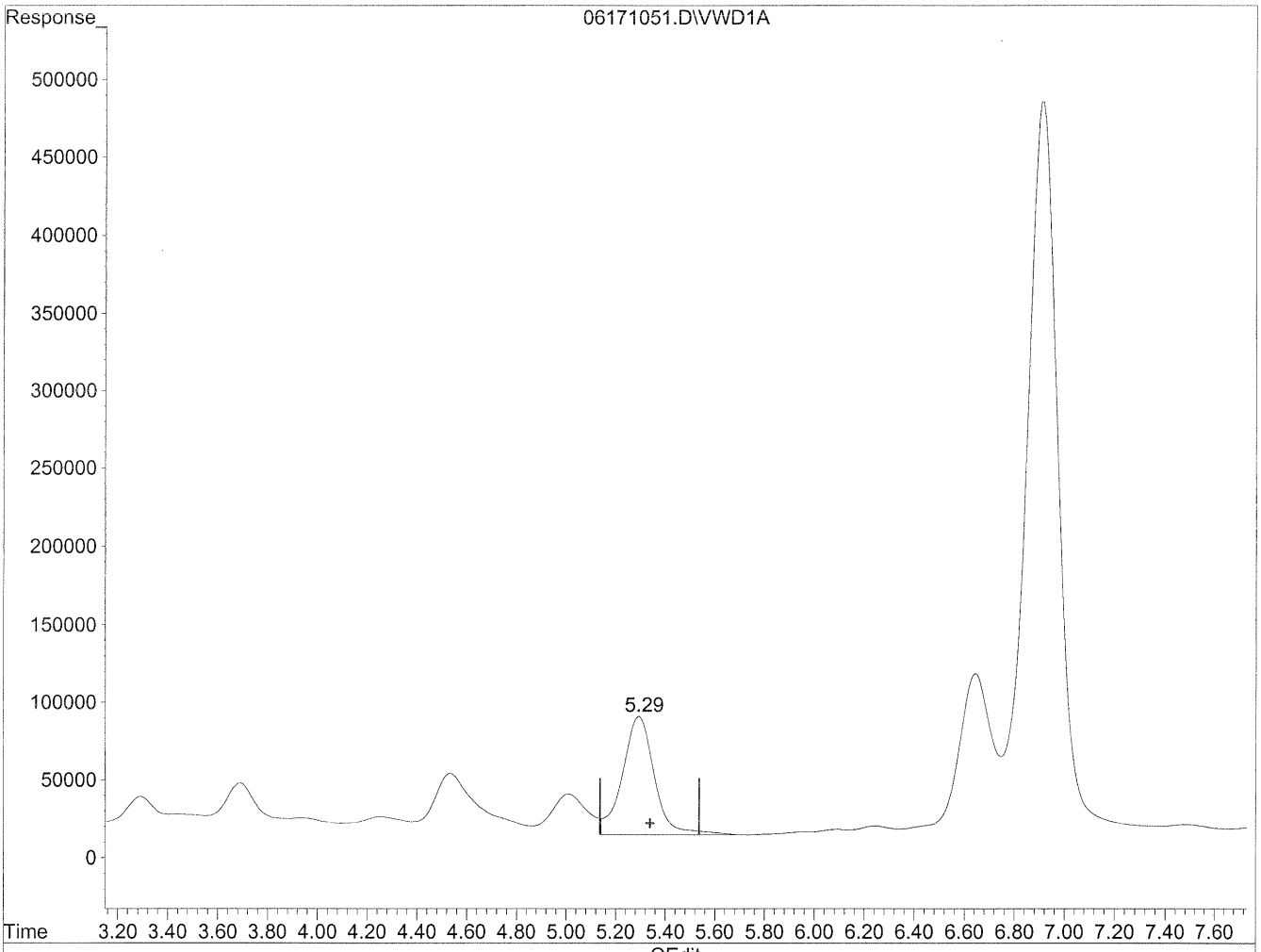
(+) = Expected Retention Time

06171051.D TO110510.M Fri Jun 18 09:55:54 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171051.D Vial: 137
Acq On : 17-Jun-2010, 18:15:27 Operator: HC/SM
Sample : P1001953-025 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:49 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.29min 2033.795ng/ml m

response 6822599

HC 6/18/10 KC no before

6/21/10

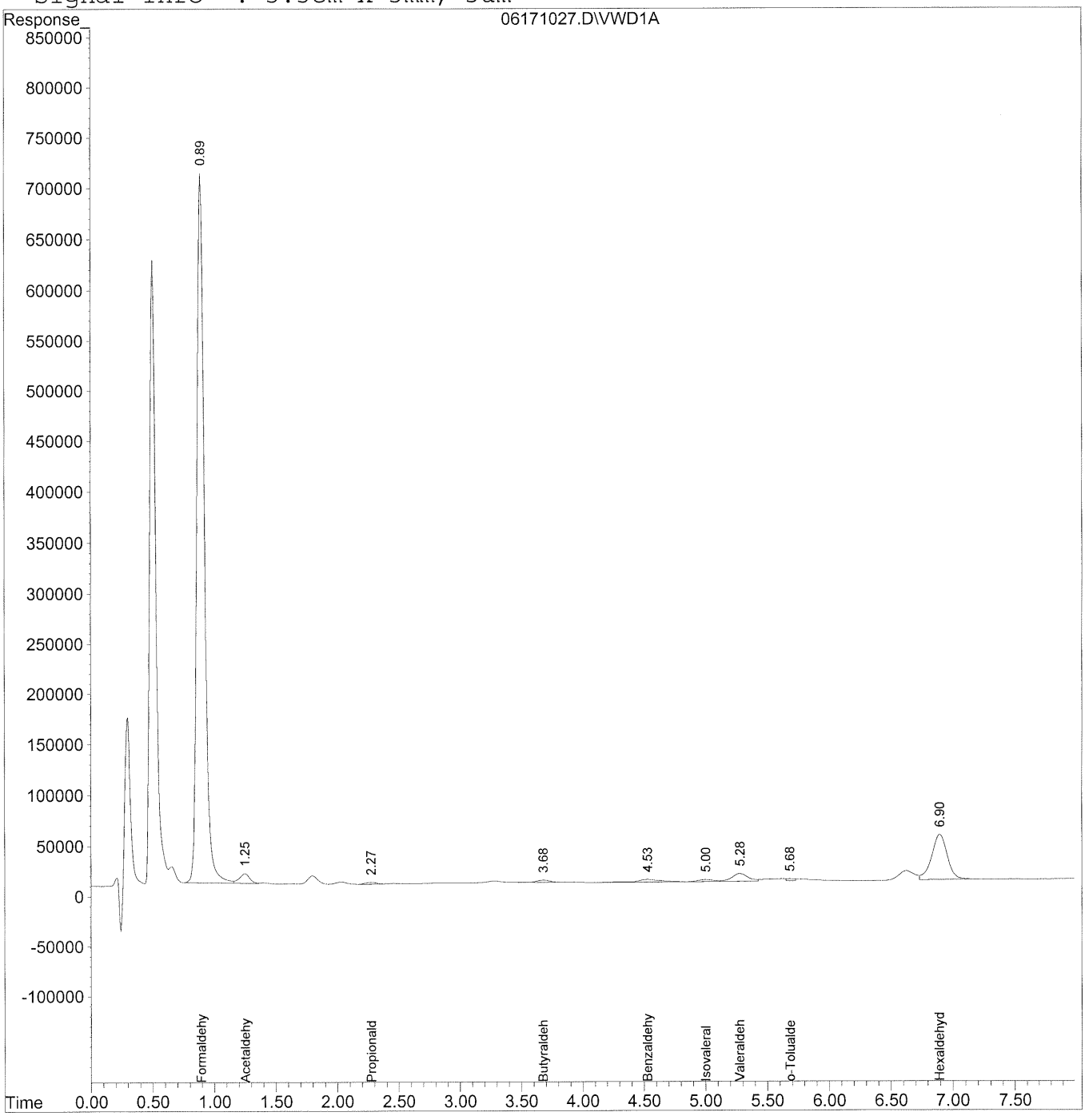
(+) = Expected Retention Time

06171051.D TO110510.M Fri Jun 18 09:56:36 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171027.D Vial: 121
Acq On : 17-Jun-2010, 14:06:21 Operator: HC/SM
Sample : P1001953-025 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:19 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171027.D Vial: 121
Acq On : 17-Jun-2010, 14:06:21 Operator: HC/SM
Sample : P1001953-025 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:19 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

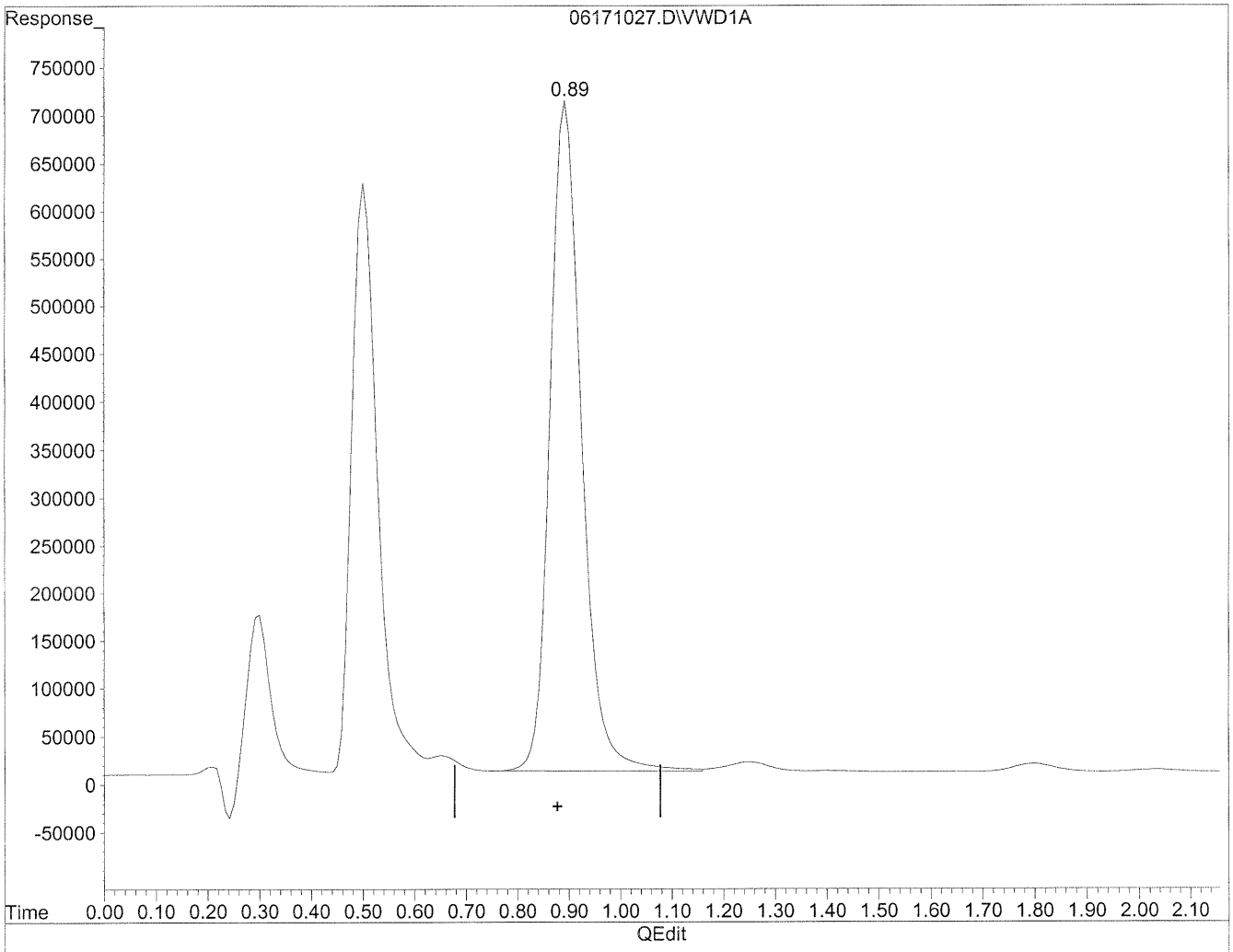
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	29699566	3182.253	ng/ml
2)	Acetaldehyde	1.25	554448	82.321	ng/ml
3)	Propionaldehyde	2.28	107286	22.066	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.68	198550	49.277	ng/ml
6)	Benzaldehyde	4.53	360567	133.212	ng/ml
7)	Isovaleraldehyde	5.01	187472	52.843	ng/ml
8)	Valeraldehyde	5.28	709213	211.414	ng/ml
9)	o-Tolualdehyde	5.68	100333	49.291	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.90	3896511	1355.132	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171027.D Vial: 121
Acq On : 17-Jun-2010, 14:06:21 Operator: HC/SM
Sample : P1001953-025 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:19 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 3182.253ng/ml

response 29699566

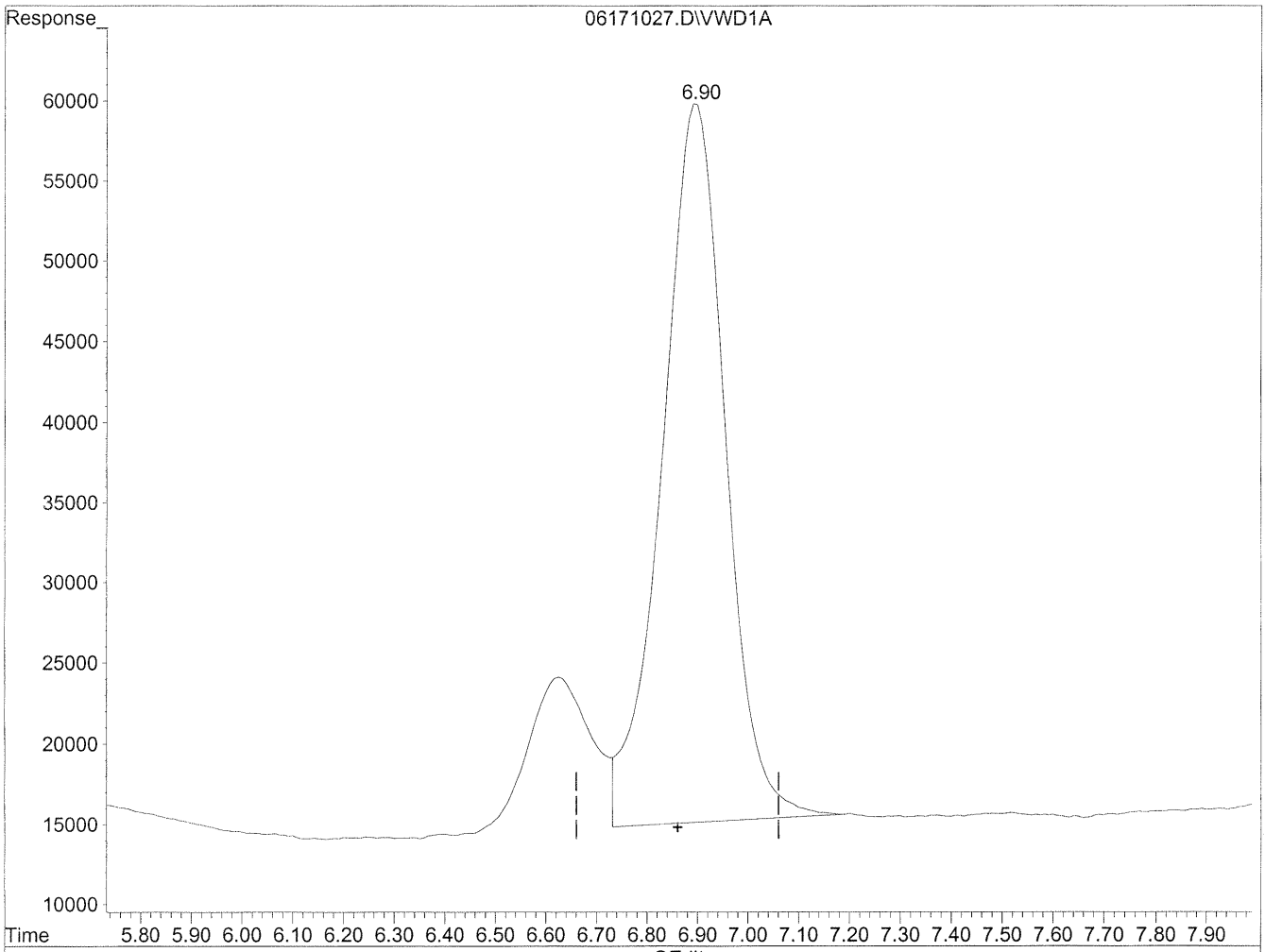
(+) = Expected Retention Time

06171027.D TO110510.M Fri Jun 18 08:27:55 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171027.D Vial: 121
Acq On : 17-Jun-2010, 14:06:21 Operator: HC/SM
Sample : P1001953-025 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:19 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.90min 1355.132ng/ml

response 3896511

(+) = Expected Retention Time

06171027.D TO110510.M Fri Jun 18 08:27:59 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111007**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-026

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 21125 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**57**	**27**	0.096	**22**	0.078	
75-07-0	**Acetaldehyde**	**1.9**	**1.1**	0.11	**0.60**	0.063	
123-38-6	**Propionaldehyde**	**0.58**	**0.70**	0.24	**0.29**	0.10	
123-72-8	**Butyraldehyde**	**0.89**	**3.8**	0.86	**1.3**	0.29	
100-52-7	**Benzaldehyde**	**3.1**	**1.6**	0.10	**0.37**	0.024	
590-86-3	**Isovaleraldehyde**	**1.0**	**0.79**	0.16	**0.22**	0.044	
110-62-3	**Valeraldehyde**	**4.2**	**7.4**	0.35	**2.1**	0.10	
66-25-1	**n-Hexaldehyde**	**26**	**68**	0.53	**17**	0.13	

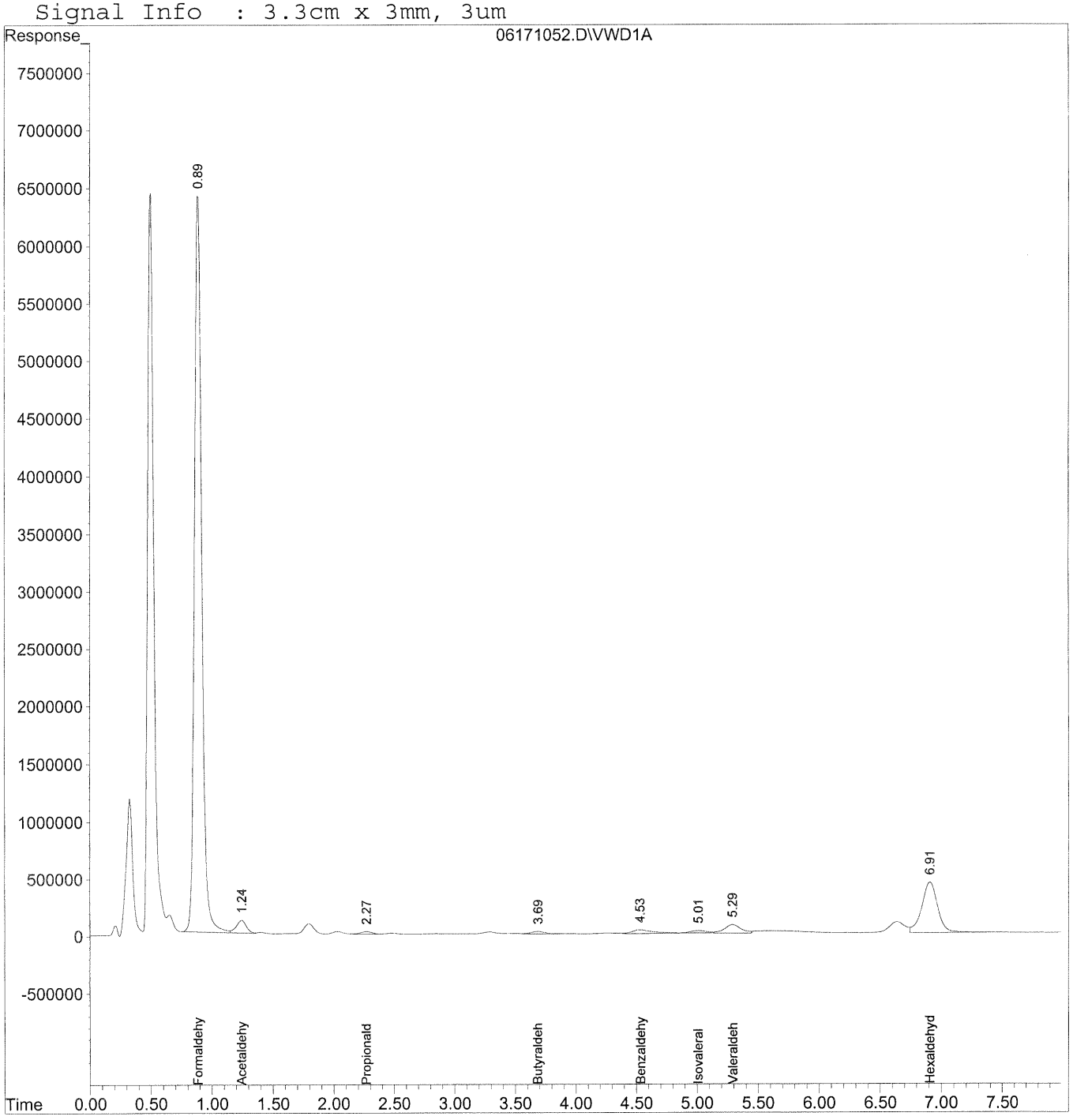
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: RC Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171052.D Vial: 138
Acq On : 17-Jun-2010, 18:25:59 Operator: HC/SM
Sample : P1001953-026 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:58 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171052.D Vial: 138
Acq On : 17-Jun-2010, 18:25:59 Operator: HC/SM
Sample : P1001953-026 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:58 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

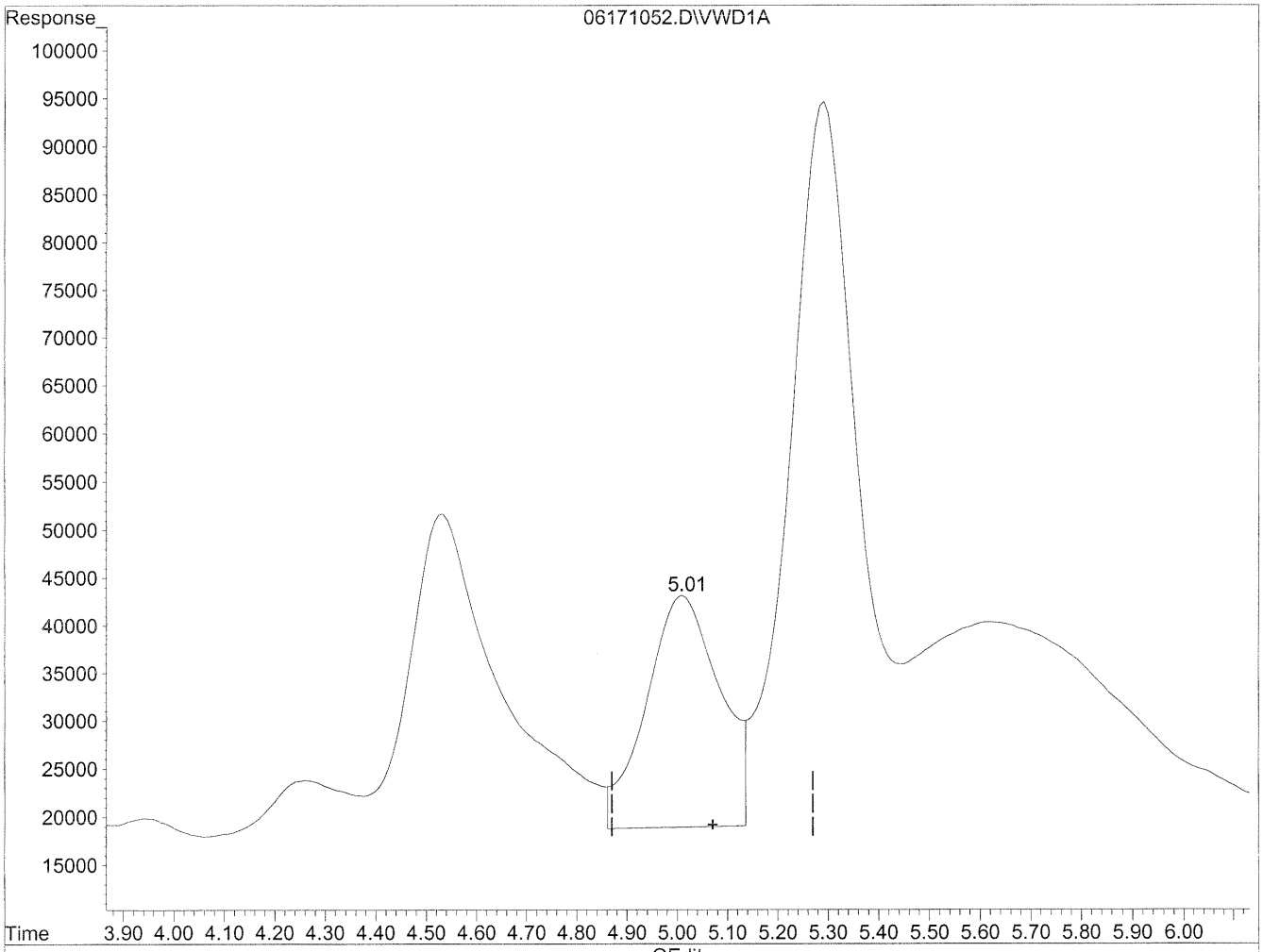
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	267737165	~~28687.535~~	ng/ml
2)	Acetaldehyde	1.25	6431430	954.894	ng/ml
3)	Propionaldehyde	2.27	1400928	288.137	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.69	1788660	443.913	ng/ml
6)	Benzaldehyde	4.53	4176931	1543.169	ng/ml
7)	Isovaleraldehyde	5.01	1799326	507.180	ng/mlm
8)	Valeraldehyde	5.29	7071107	2107.874	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.91	39624205	~~13780.544~~	~~ng/ml~~
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171052.D Vial: 138
Acq On : 17-Jun-2010, 18:25:59 Operator: HC/SM
Sample : P1001953-026 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:56 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.01min 689.022ng/ml

response 2444446

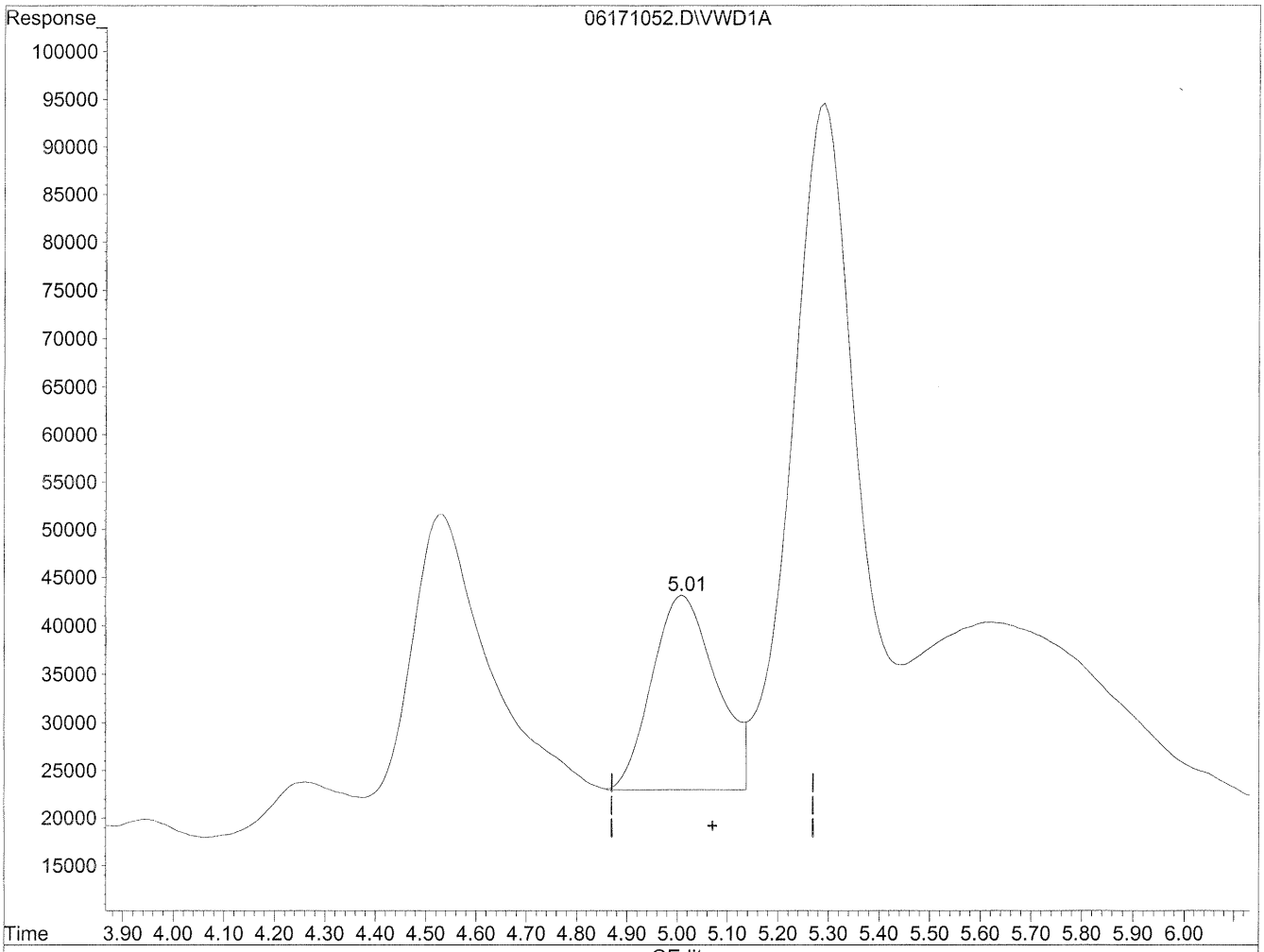
(+) = Expected Retention Time

06171052.D TO110510.M Fri Jun 18 09:58:32 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171052.D Vial: 138
Acq On : 17-Jun-2010, 18:25:59 Operator: HC/SM
Sample : P1001953-026 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:56 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.01min 507.180ng/ml m

response 1799326

6/21/10 6/18/10

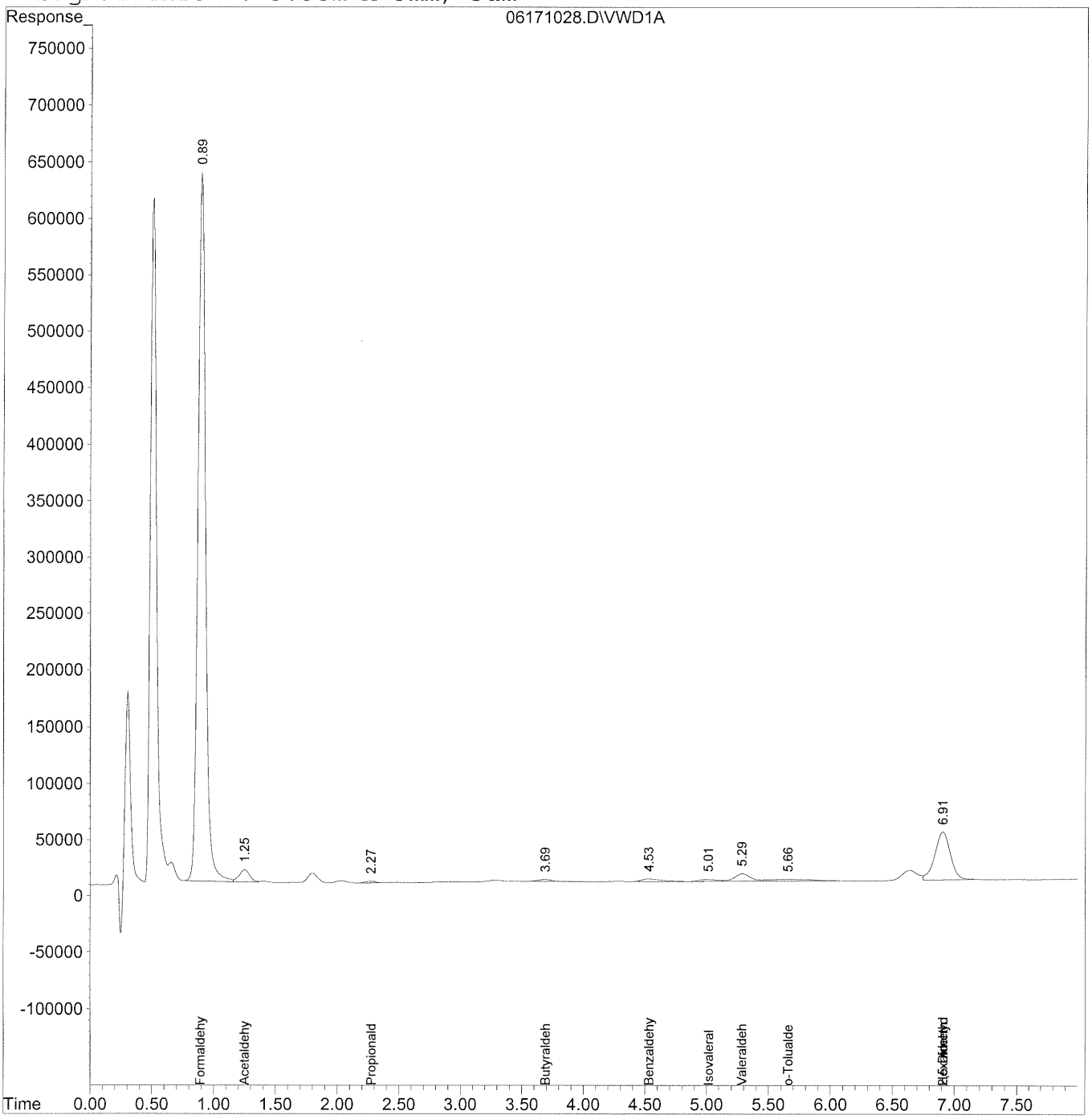
(+) = Expected Retention Time

06171052.D TO110510.M Fri Jun 18 09:58:40 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171028.D Vial: 122
Acq On : 17-Jun-2010, 14:16:55 Operator: HC/SM
Sample : P1001953-026 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:41 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171028.D Vial: 122
Acq On : 17-Jun-2010, 14:16:55 Operator: HC/SM
Sample : P1001953-026 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:41 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

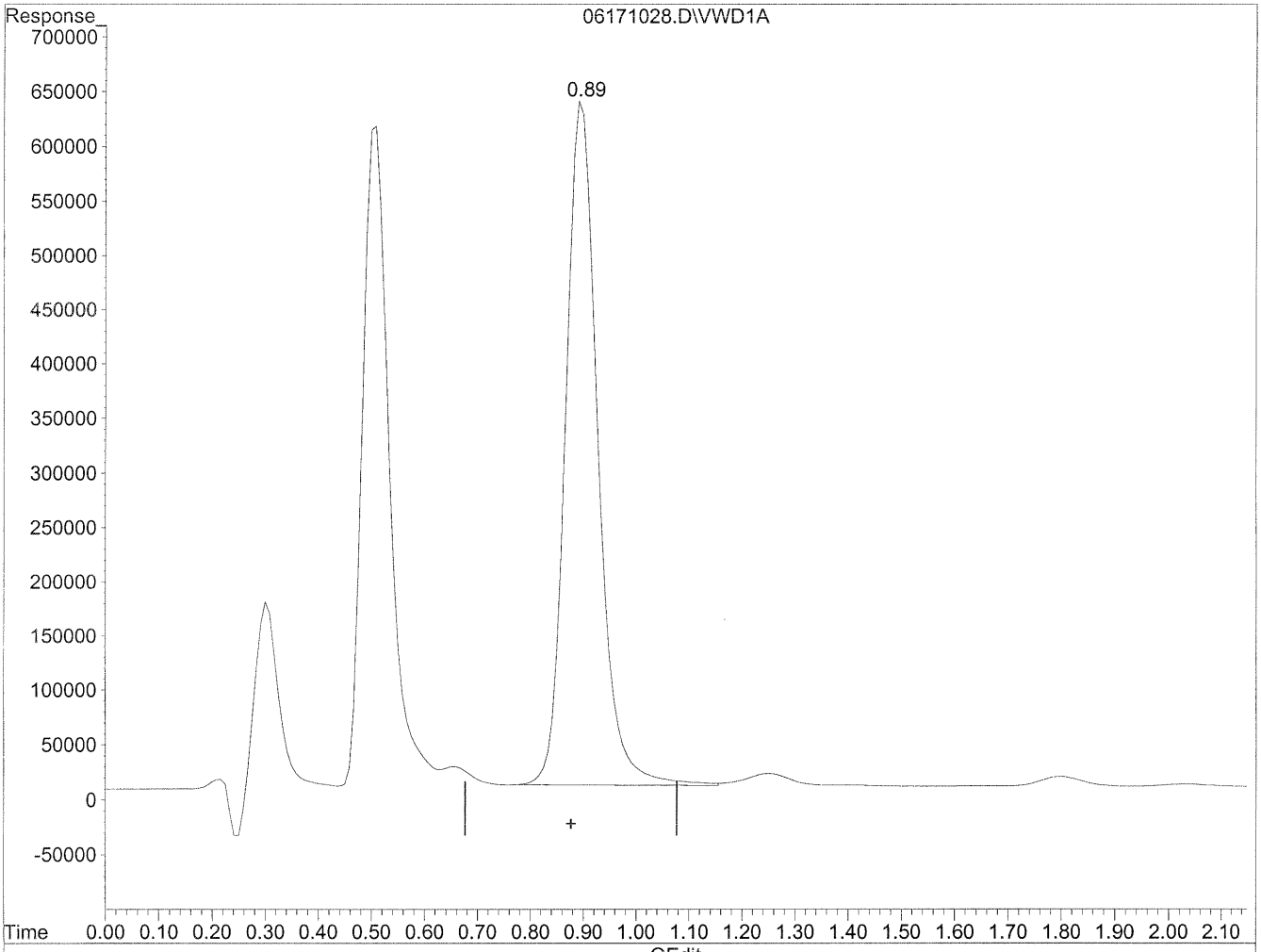
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	26681537	2858.877	ng/ml
2)	Acetaldehyde	1.25	653406	97.013	ng/ml
3)	Propionaldehyde	2.27	91473	18.814	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.69	145441	36.096	ng/ml
6)	Benzaldehyde	4.53	272481	100.668	ng/ml
7)	Isovaleraldehyde	5.02	164074	46.248	ng/ml
8)	Valeraldehyde	5.29	587232	175.052	ng/ml
9)	o-Tolualdehyde	5.66	361614	177.650	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.91	3727431	1296.329	ng/ml
12)	2,5-Dimethylbenzaldehyde	6.91f	3727431	1937.294	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171028.D Vial: 122
Acq On : 17-Jun-2010, 14:16:55 Operator: HC/SM
Sample : P1001953-026 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:41 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.90min 2858.877ng/ml

response 26681537

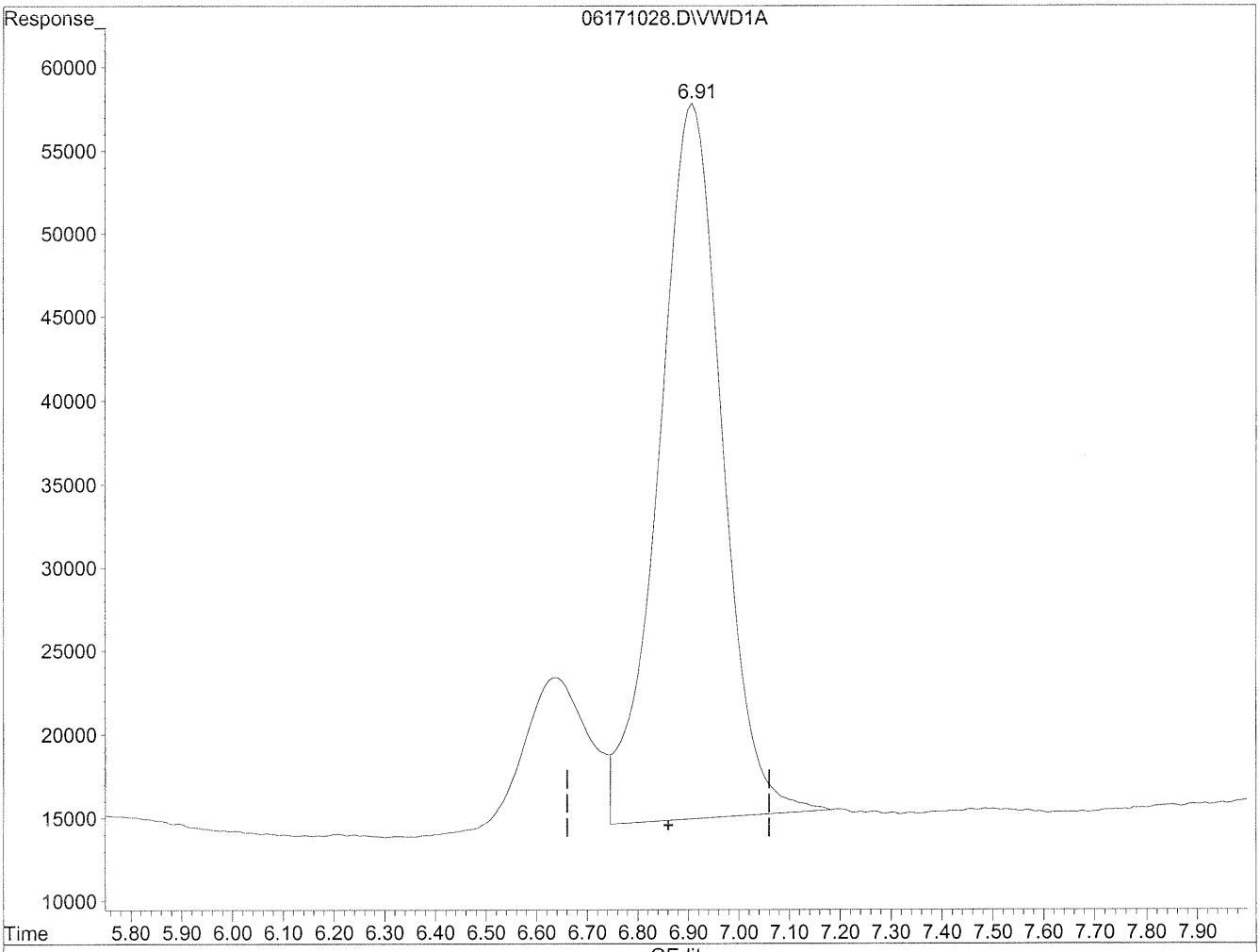
(+) = Expected Retention Time

06171028.D TO110510.M Fri Jun 18 08:28:12 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171028.D Vial: 122
Acq On : 17-Jun-2010, 14:16:55 Operator: HC/SM
Sample : P1001953-026 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:41 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.91min 1296.329ng/ml

response 3727431

(+) = Expected Retention Time

06171028.D TO110510.M Fri Jun 18 08:28:16 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111008**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-027

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 21125 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**57**	**27**	0.096	**22**	0.078	
75-07-0	**Acetaldehyde**	**2.4**	**1.3**	0.11	**0.74**	0.063	
123-38-6	**Propionaldehyde**	**0.96**	**1.2**	0.24	**0.49**	0.10	
123-72-8	**Butyraldehyde**	**1.6**	**6.8**	0.86	**2.3**	0.29	
100-52-7	**Benzaldehyde**	**4.1**	**2.1**	0.10	**0.49**	0.024	
590-86-3	**Isovaleraldehyde**	**1.2**	**0.97**	0.16	**0.27**	0.044	
110-62-3	**Valeraldehyde**	**4.6**	**8.1**	0.35	**2.3**	0.10	
66-25-1	**n-Hexaldehyde**	**28**	**75**	0.53	**18**	0.13	

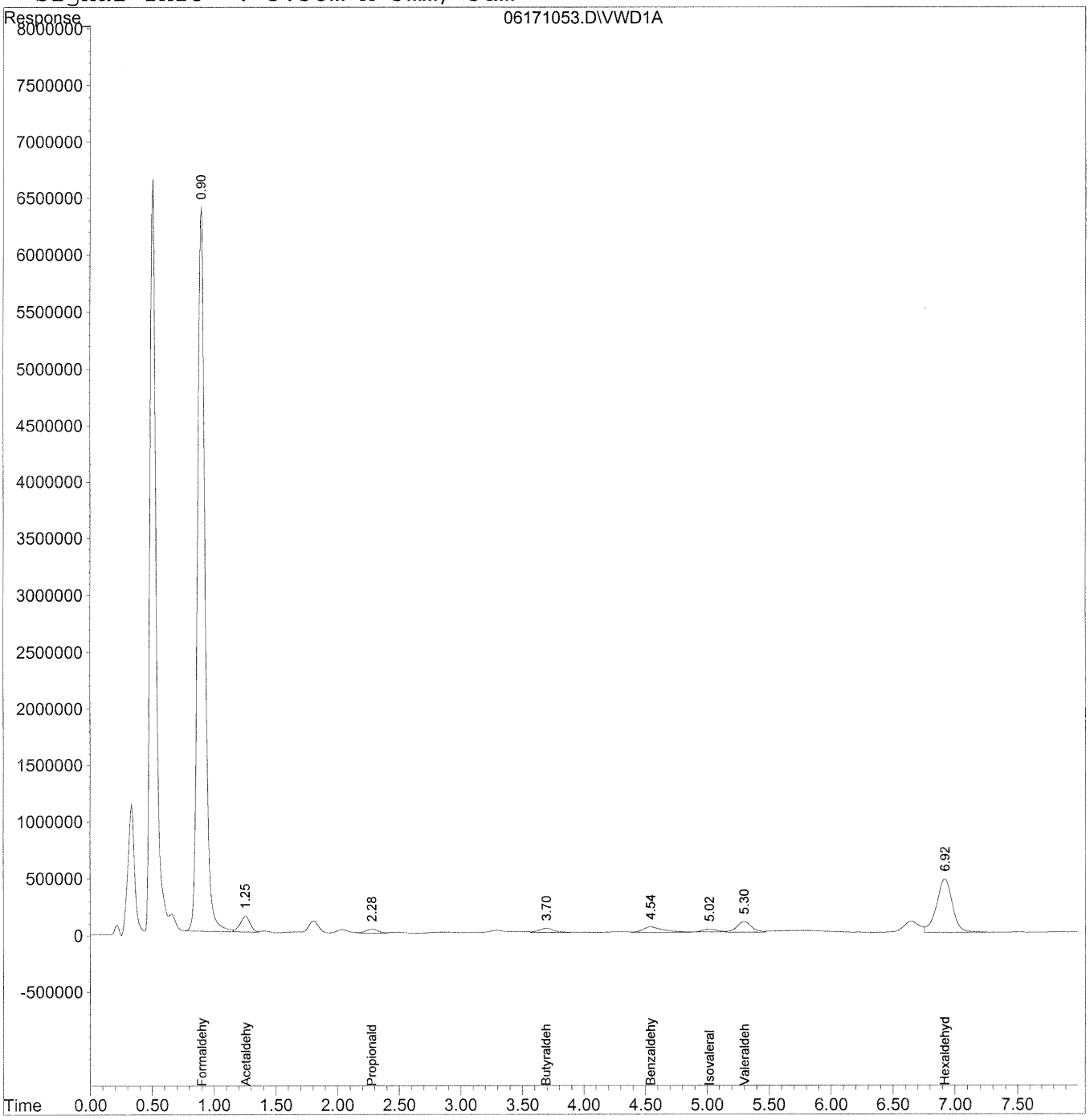
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: RLS Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:01 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:01 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

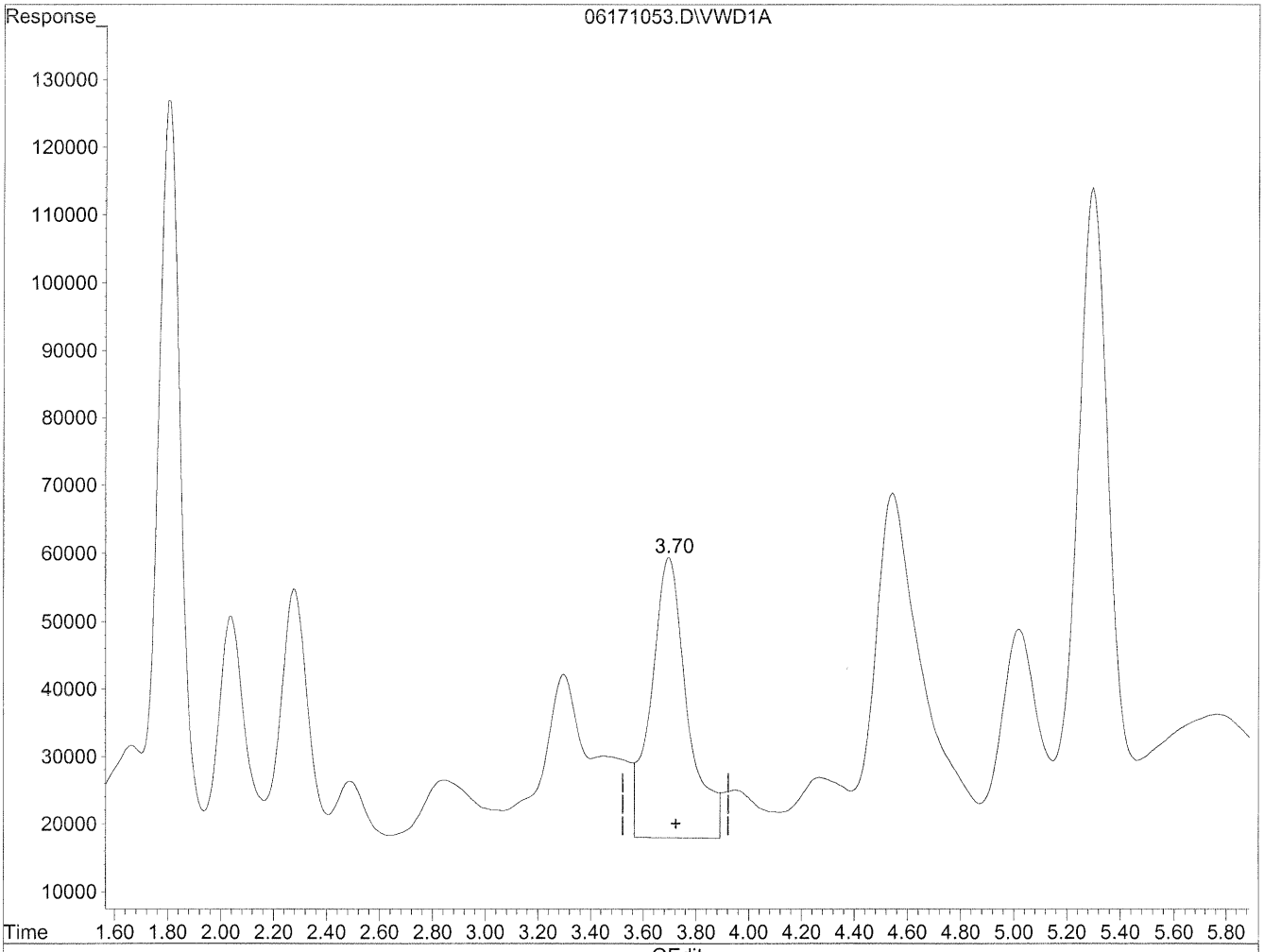
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	264997745	~~28394.011~~	ng/ml
2)	Acetaldehyde	1.26	7932728	1177.797	ng/ml
3)	Propionaldehyde	2.28	2323476	477.883	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.70	3180123	789.249	ng/mlm
6)	Benzaldehyde	4.54	5565608	2056.216	ng/mlm
7)	Isovaleraldehyde	5.02	2210351	623.037	ng/mlm
8)	Valeraldehyde	5.30	7729579	2304.163	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/mld
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	6.92	41483846	~~14427.291~~	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.70min 979.669ng/ml

response 3947386

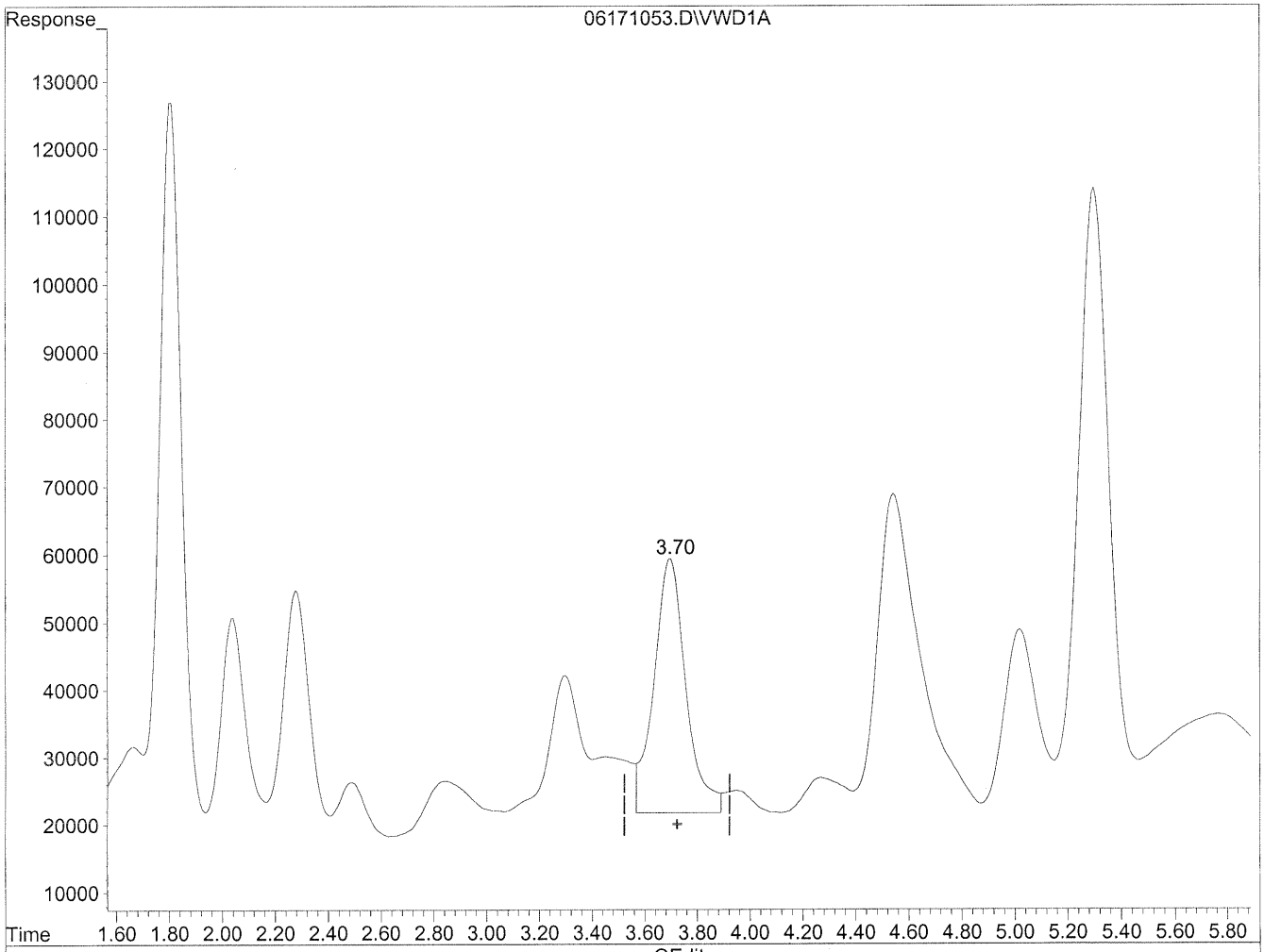
(+) = Expected Retention Time

06171053.D TO110510.M Fri Jun 18 09:59:51 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.70min 789.249ng/ml m

response 3180123

HC 6/18/10 BC

6/21/10

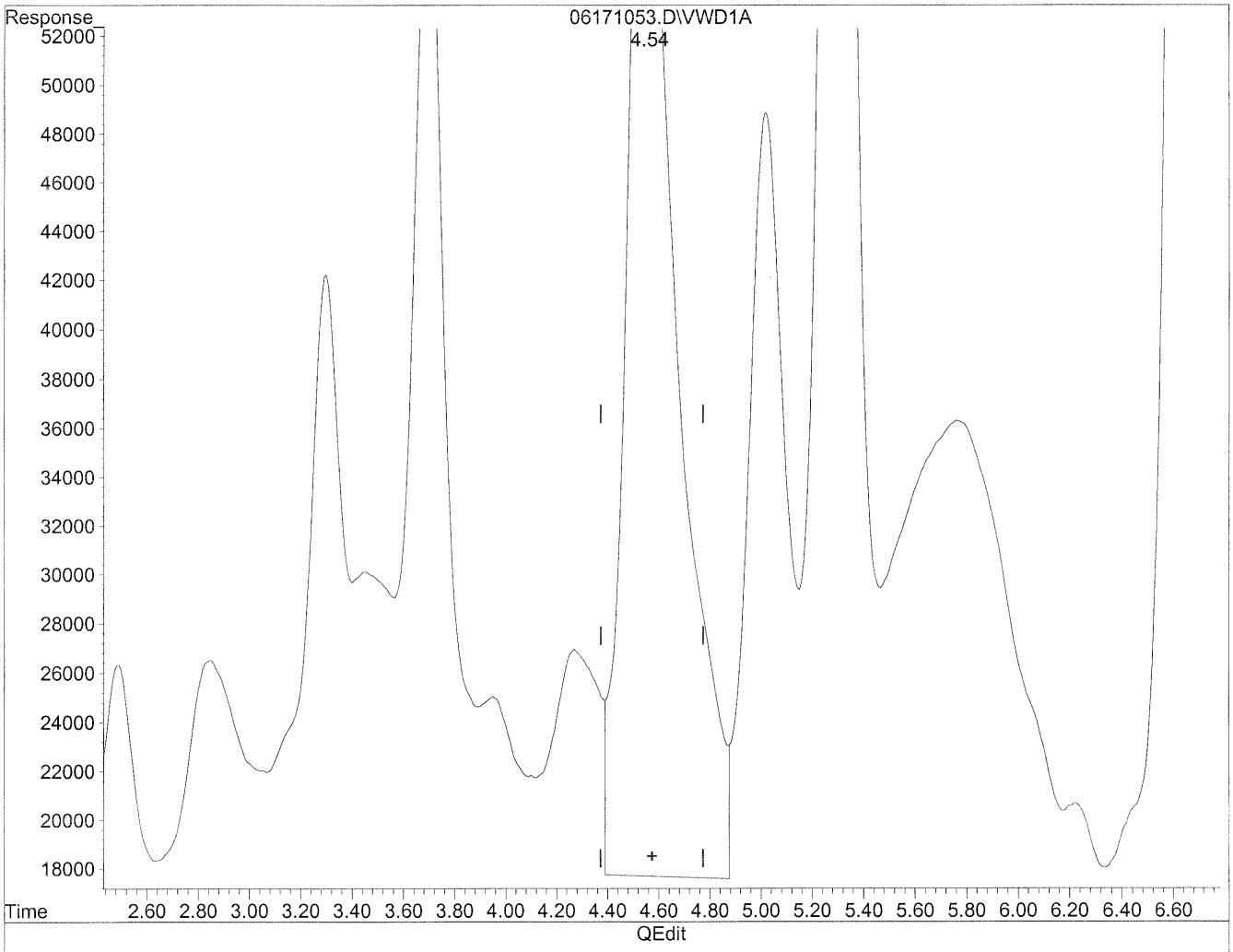
(+) = Expected Retention Time

06171053.D TO110510.M Fri Jun 18 10:00:08 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.55min 2430.333ng/ml

response 6578238

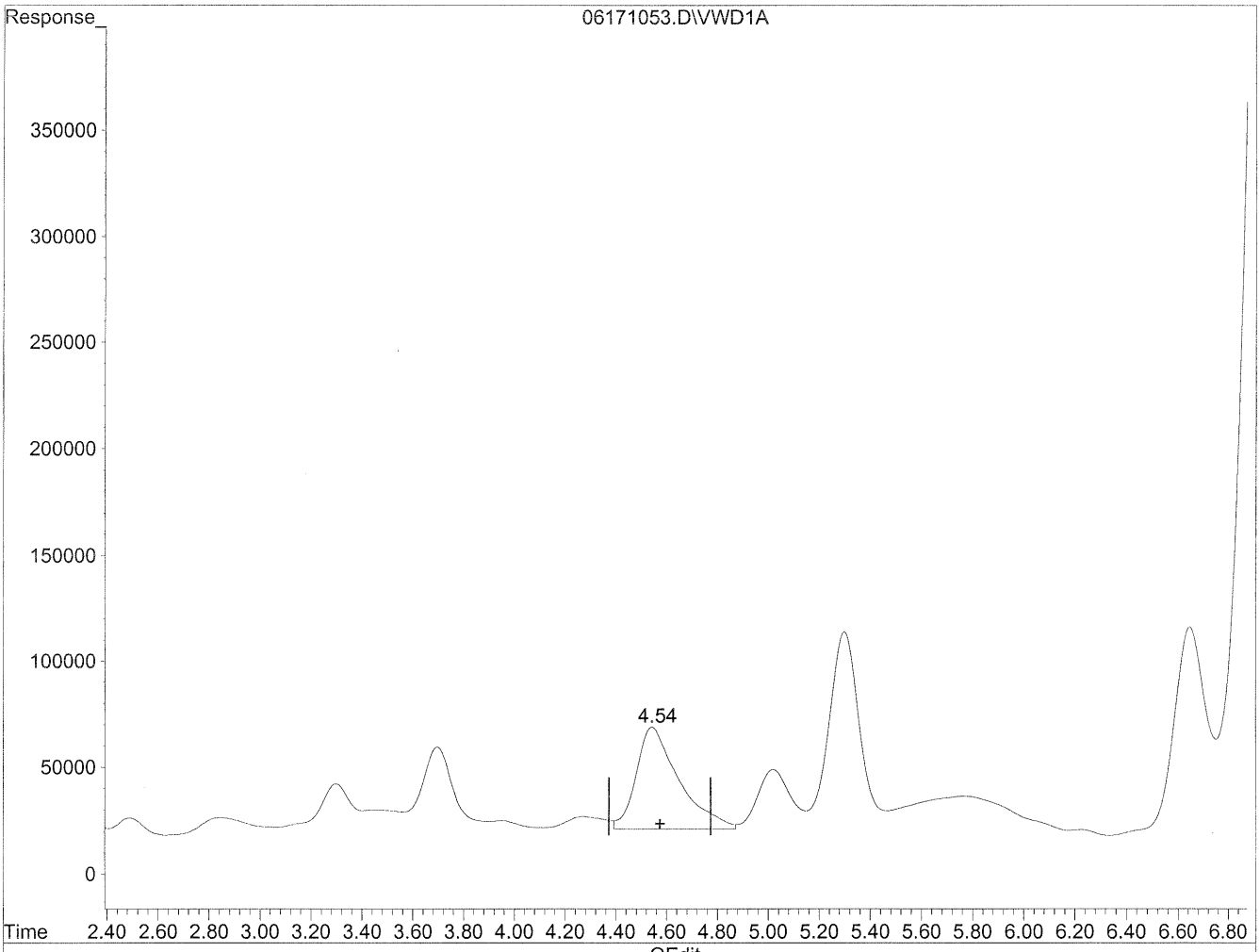
(+) = Expected Retention Time

06171053.D TO110510.M Fri Jun 18 10:00:19 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.54min 2056.216ng/ml m

response 5565608

HC 6/18/10 BC

6/21/10

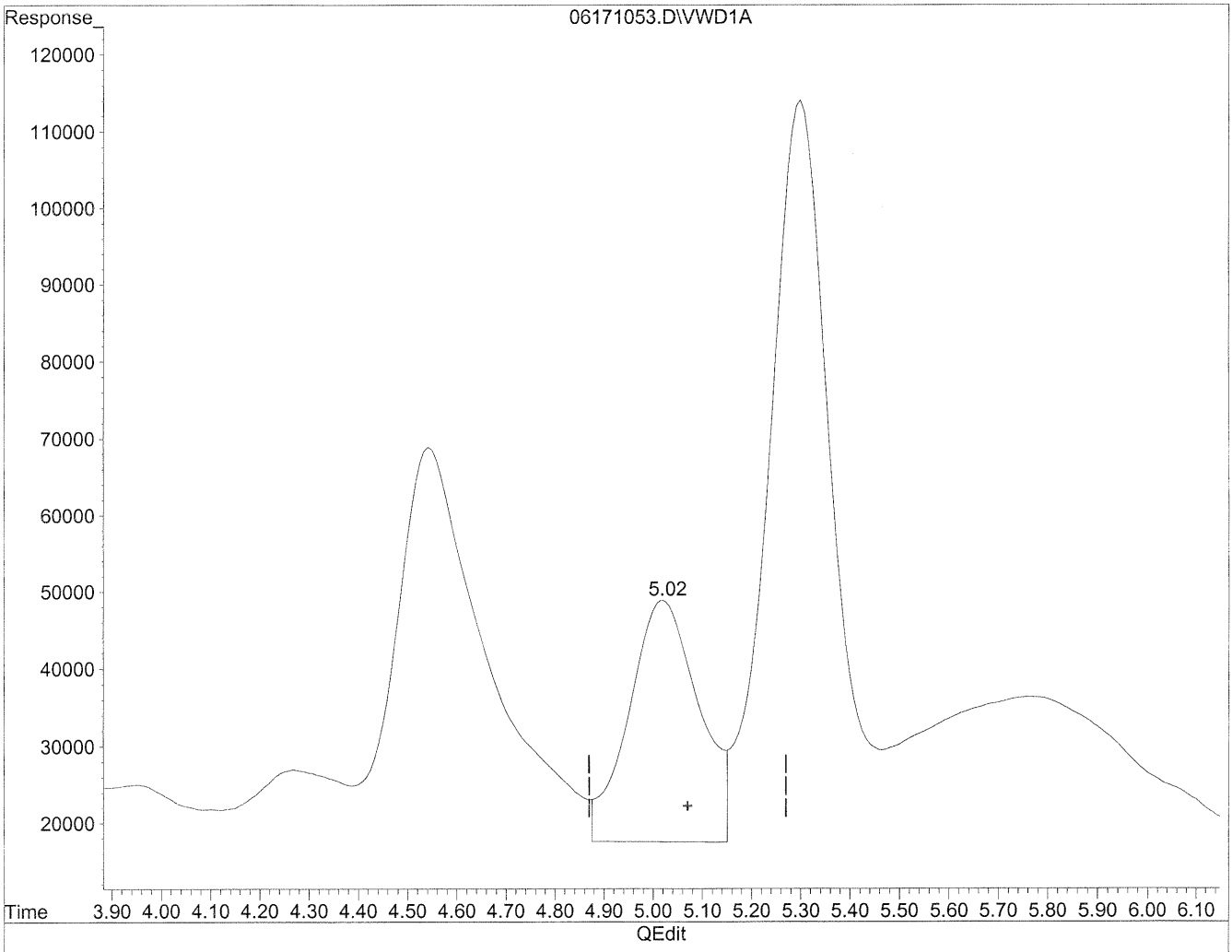
(+) = Expected Retention Time

06171053.D TO110510.M Fri Jun 18 10:00:32 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.02min 868.603ng/ml

response 3081548

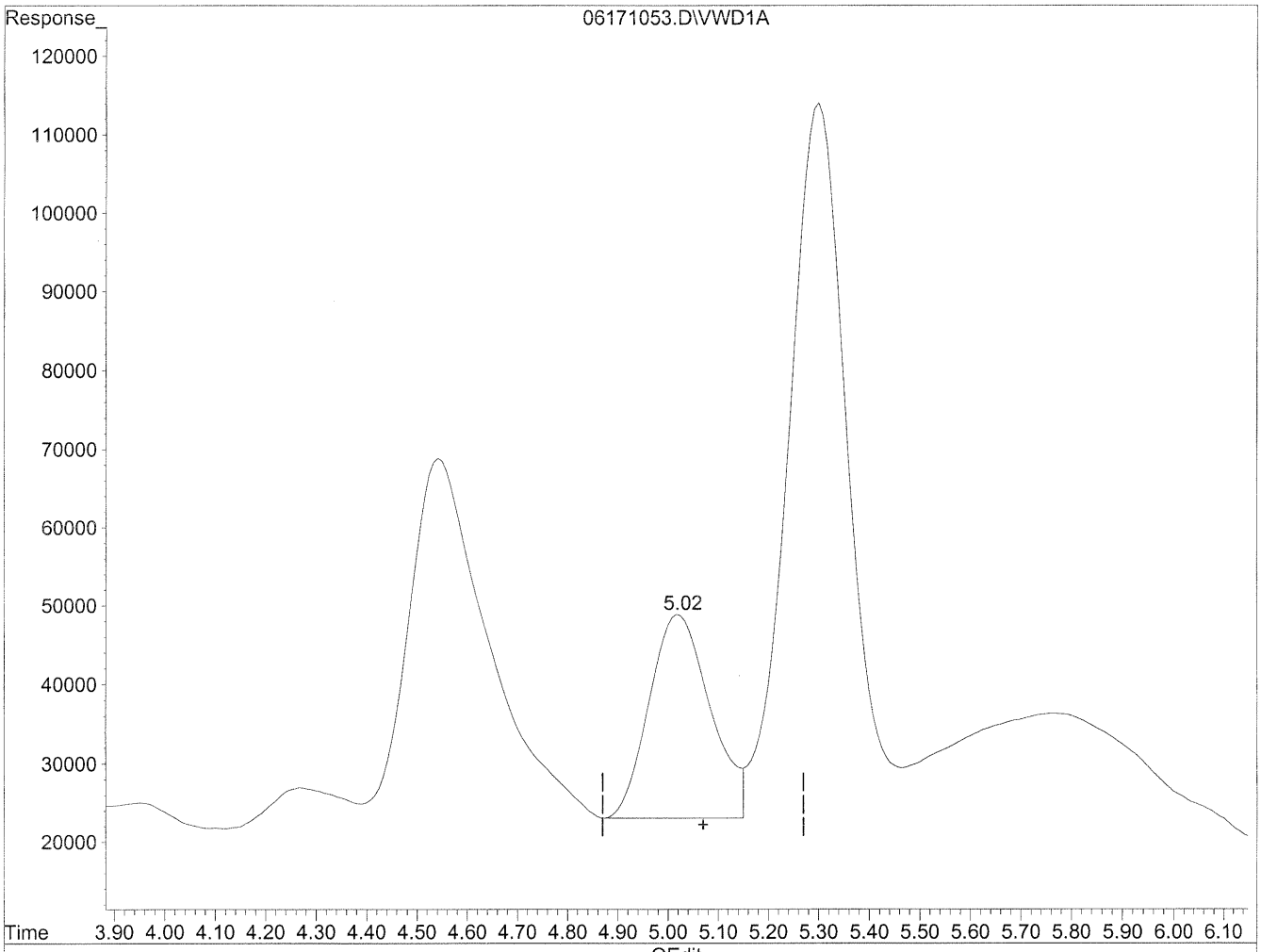
(+) = Expected Retention Time

06171053.D TO110510.M Fri Jun 18 10:00:37 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

5.02min 623.037ng/ml m

response 2210351

6/21/10

6/18/10 BC

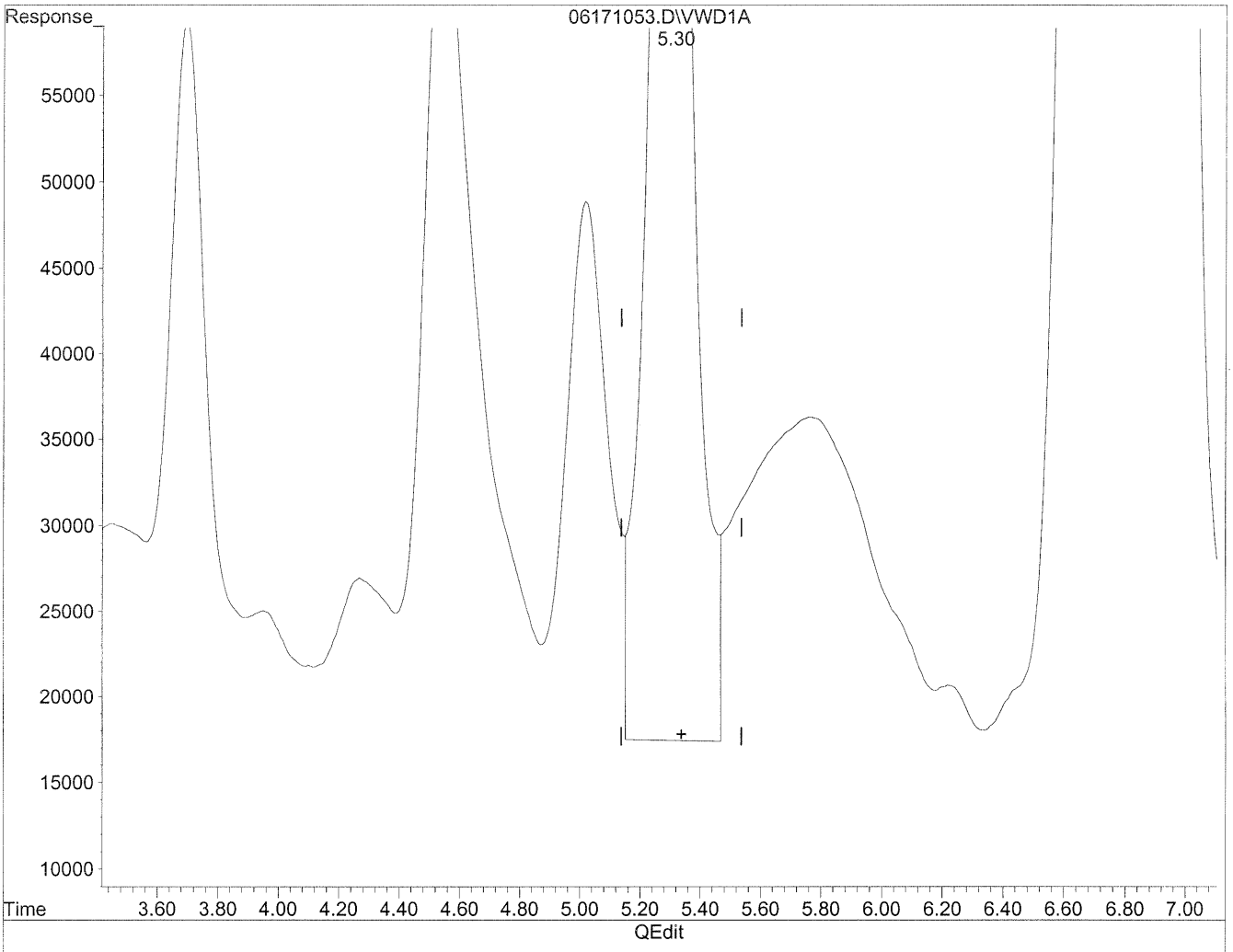
(+) = Expected Retention Time

06171053.D TO110510.M Fri Jun 18 10:00:59 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.30min 2522.866ng/ml

response 8463242

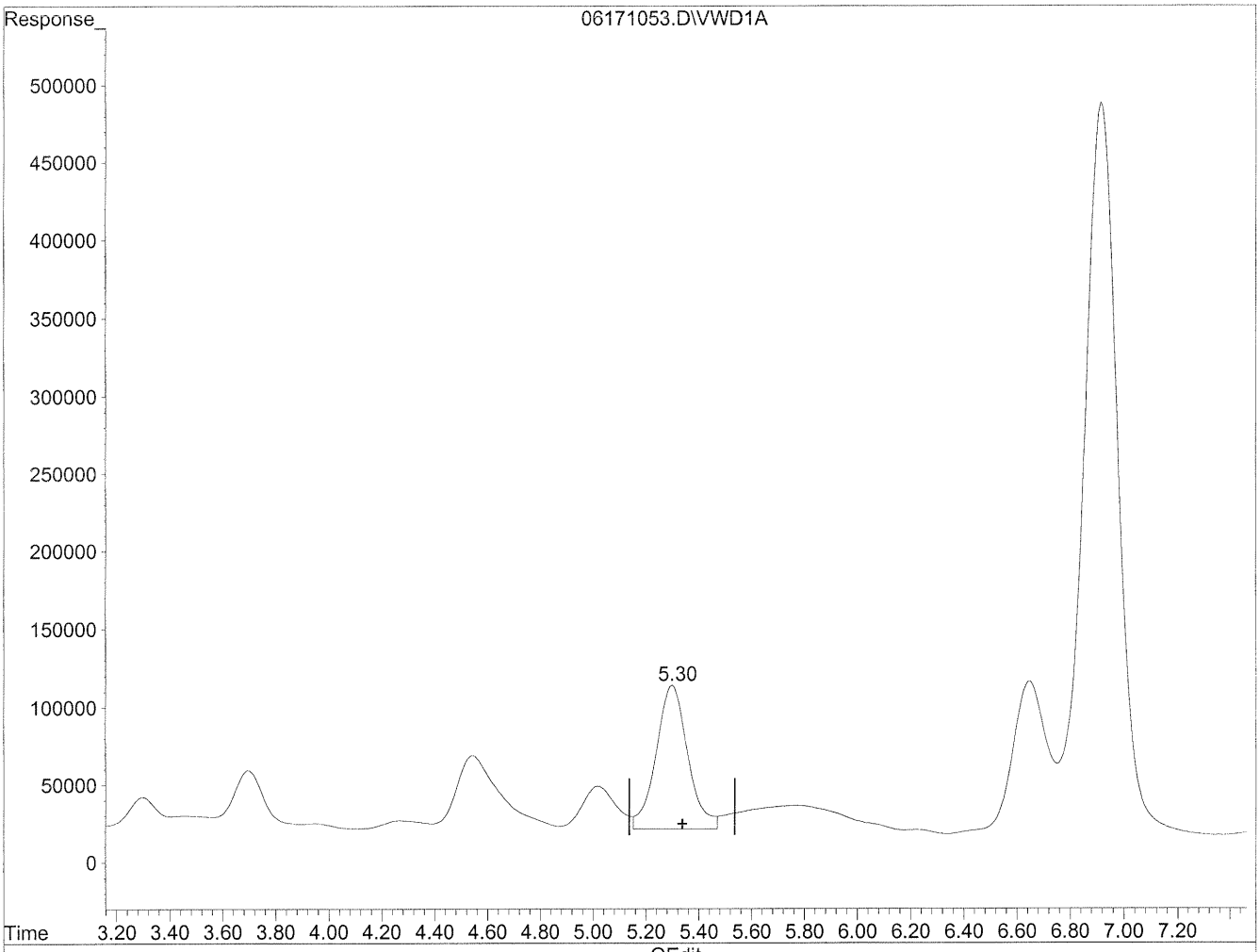
(+) = Expected Retention Time

06171053.D TO110510.M Fri Jun 18 10:01:10 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(8) Valeraldehyde

5.30min 2304.163ng/ml m

response 7729579

6/21/10

HC 6/18/10 BC

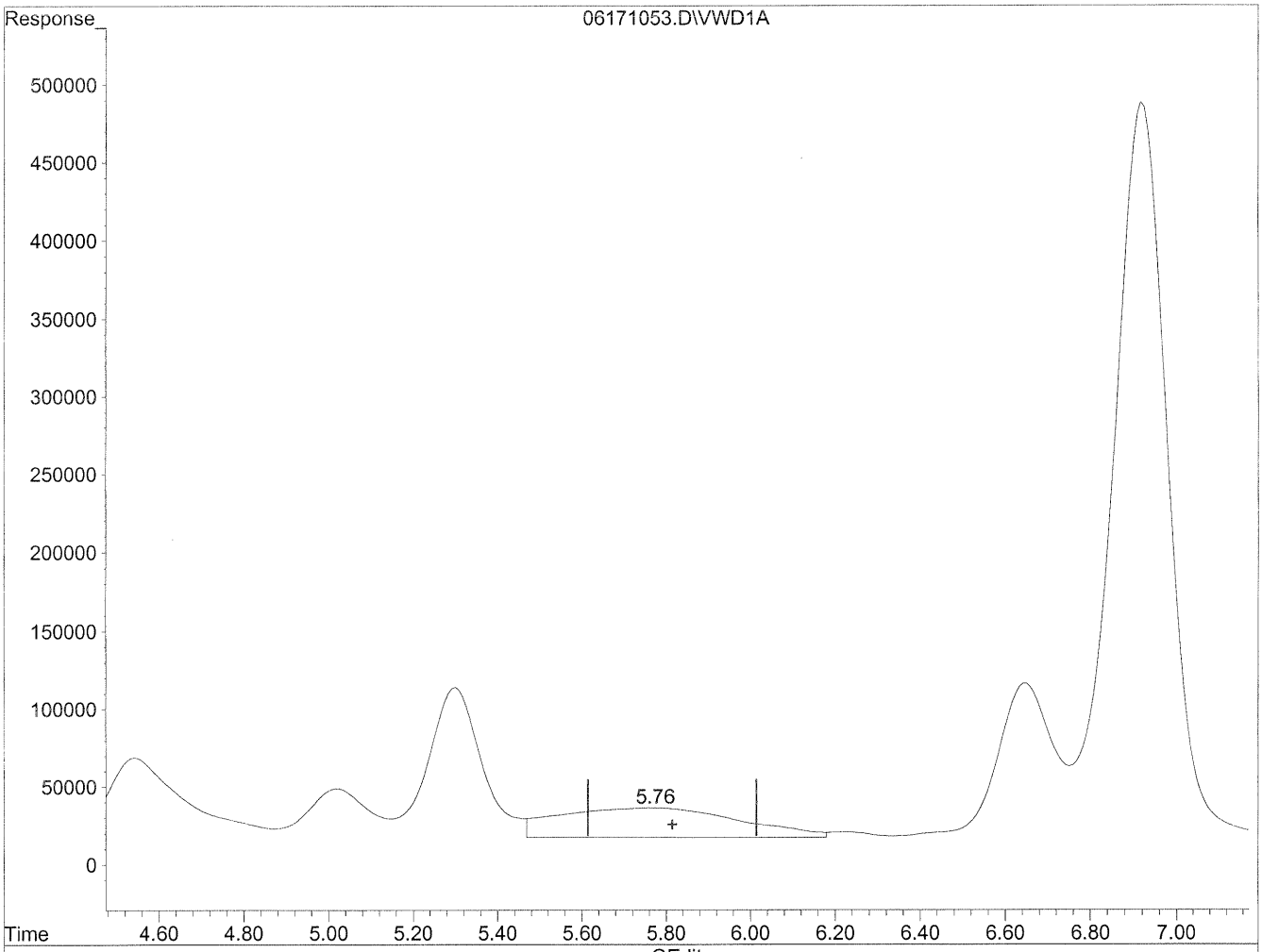
(+) = Expected Retention Time

06171053.D TO110510.M Fri Jun 18 10:01:22 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.77min 2804.576ng/ml

response 5708817

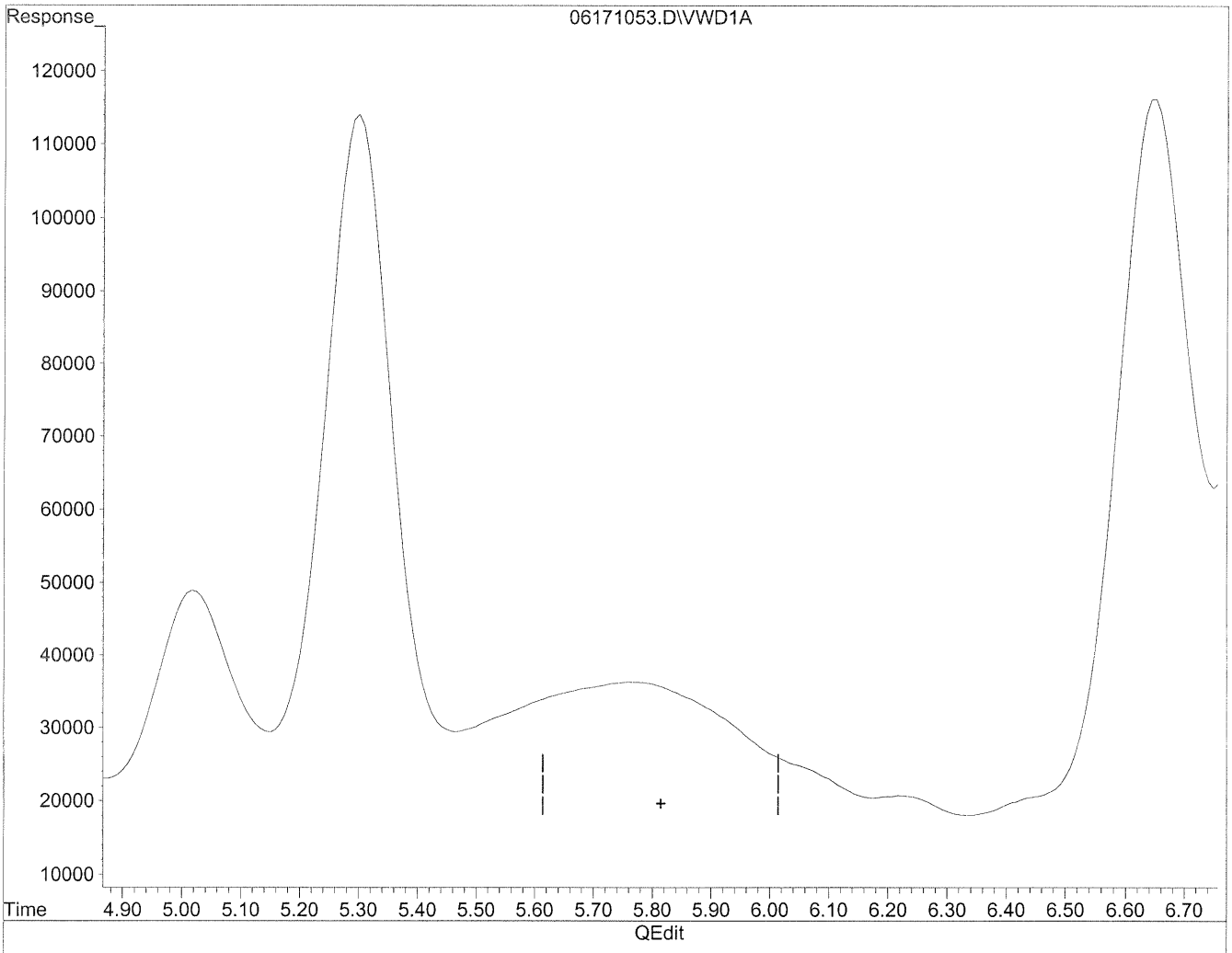
(+) = Expected Retention Time

06171053.D TO110510.M Fri Jun 18 10:01:26 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171053.D Vial: 139
Acq On : 17-Jun-2010, 18:36:33 Operator: HC/SM
Sample : P1001953-027 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:17 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

0.00min 0.000ng/ml d

response 0

6/21/10

HC 6/18/10 MP

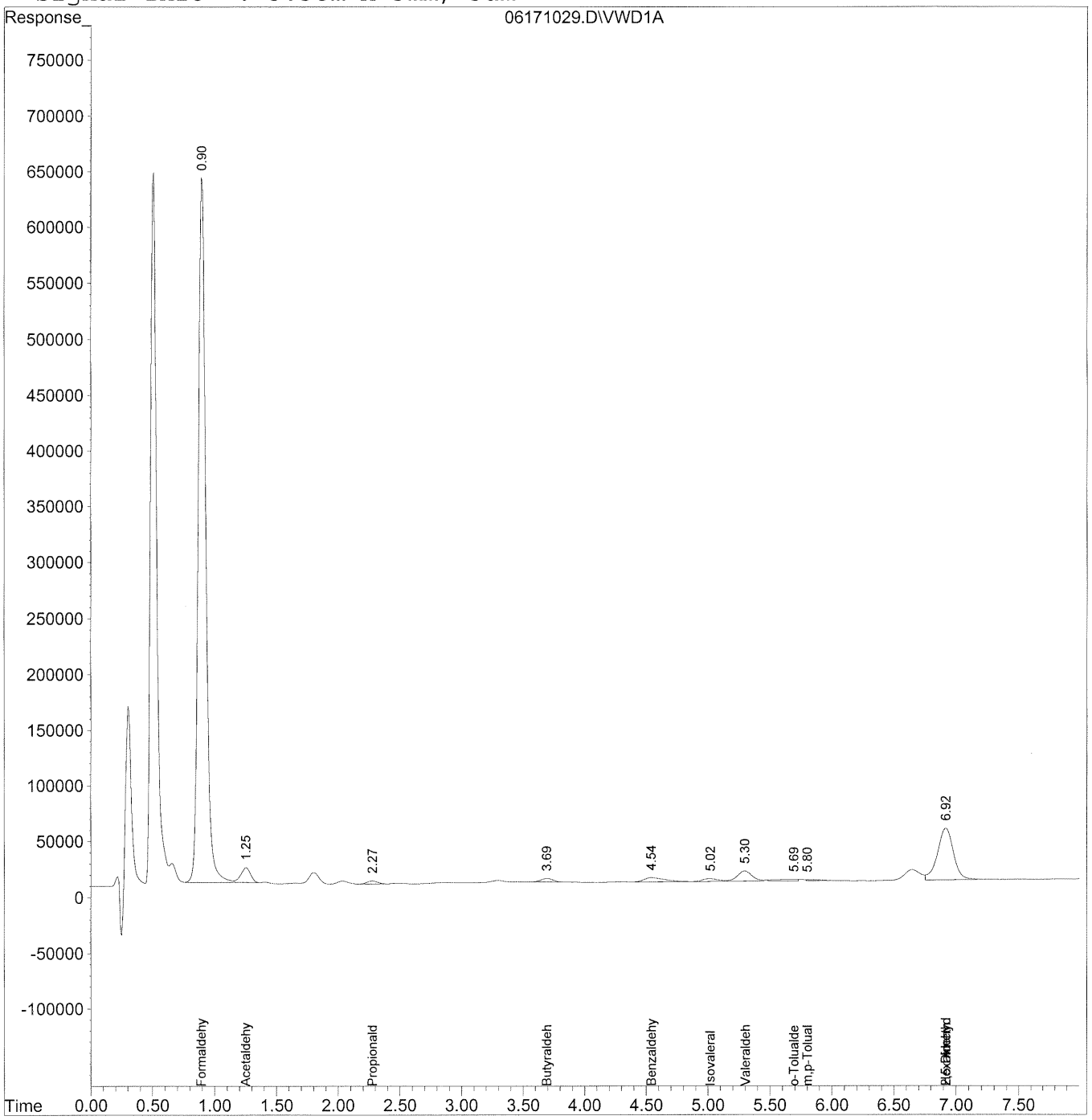
(+) = Expected Retention Time

06171053.D TO110510.M Fri Jun 18 10:01:29 2010

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171029.D Vial: 123
Acq On : 17-Jun-2010, 14:27:29 Operator: HC/SM
Sample : P1001953-027 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:40 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171029.D Vial: 123
Acq On : 17-Jun-2010, 14:27:29 Operator: HC/SM
Sample : P1001953-027 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:40 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 11:54:39 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

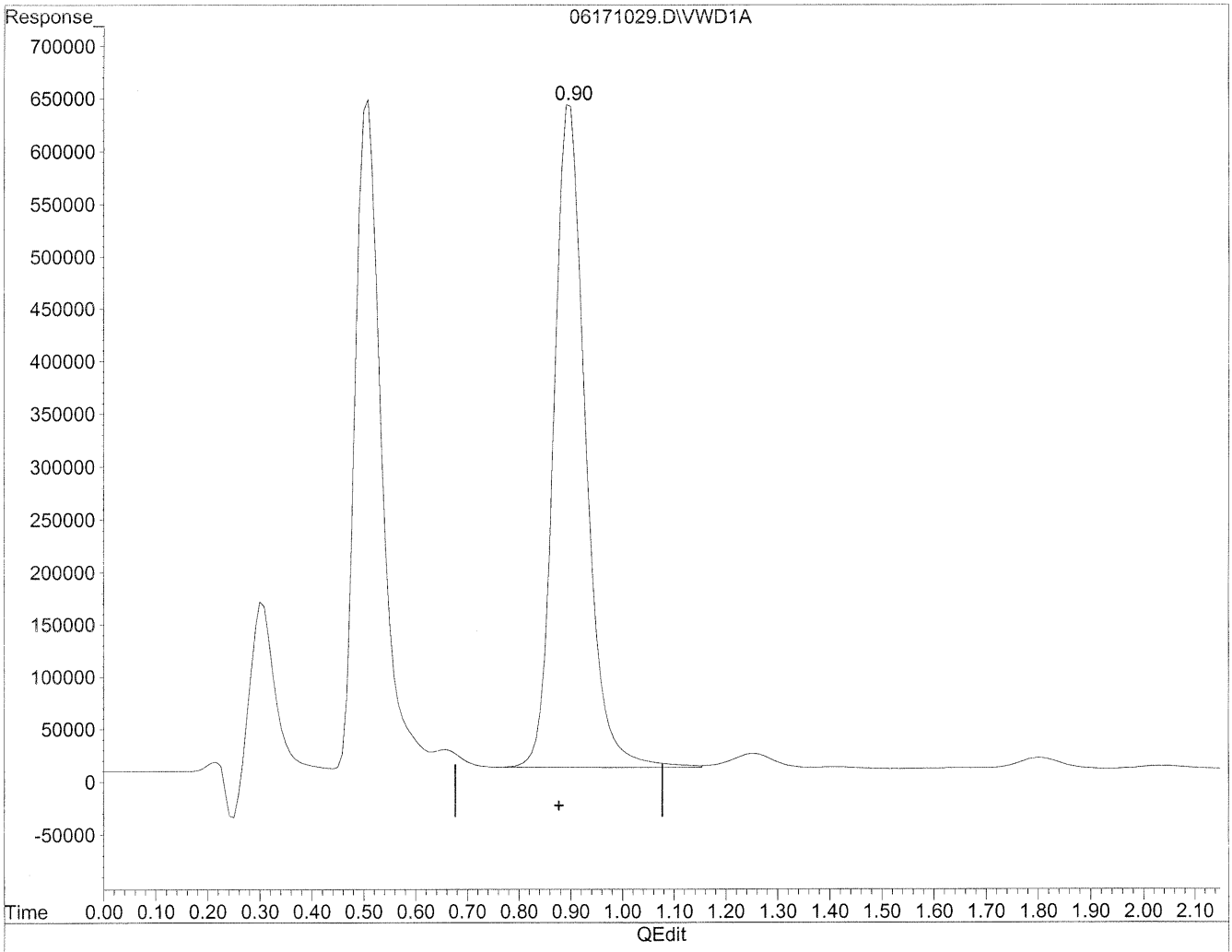
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	26787536	2870.234	ng/ml
2)	Acetaldehyde	1.26	724590	107.582	ng/ml
3)	Propionaldehyde	2.28	157389	32.371	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.70	221239	54.908	ng/ml
6)	Benzaldehyde	4.55	442703	163.557	ng/ml
7)	Isovaleraldehyde	5.02	230012	64.834	ng/ml
8)	Valeraldehyde	5.30	755836	225.312	ng/ml
9)	o-Tolualdehyde	5.70	176606	86.761	ng/ml
10)	m,p-Tolualdehyde	5.81	84337	36.001	ng/ml
11)	Hexaldehyde	6.92	4076554	1417.748	ng/ml
12)	2,5-Dimethylbenzaldehyde	6.92f	4076554	2118.747	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171029.D Vial: 123
Acq On : 17-Jun-2010, 14:27:29 Operator: HC/SM
Sample : P1001953-027 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:40 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.90min 2870.234ng/ml

response 26787536

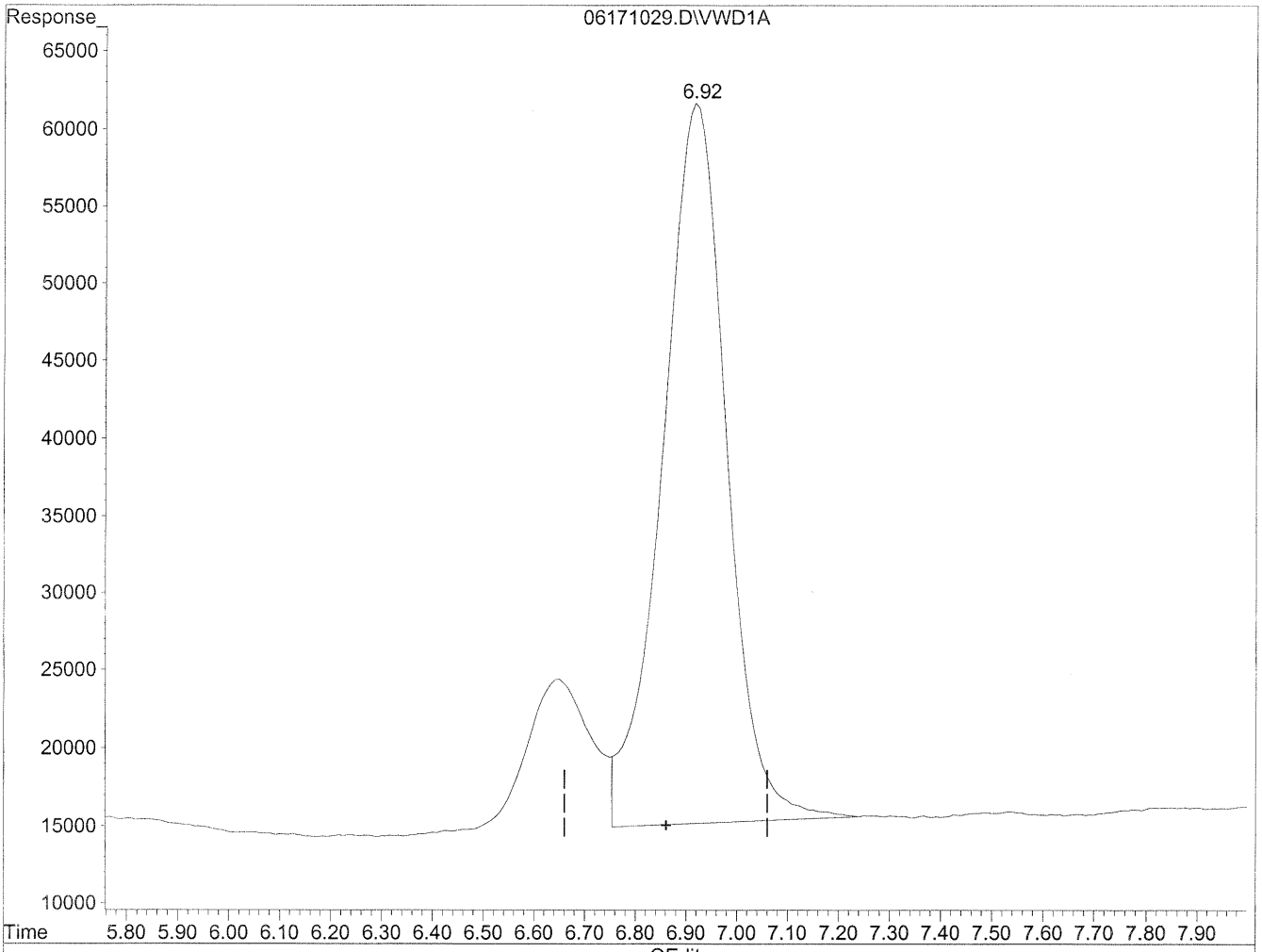
(+) = Expected Retention Time

06171029.D TO110510.M Fri Jun 18 08:28:29 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171029.D Vial: 123
Acq On : 17-Jun-2010, 14:27:29 Operator: HC/SM
Sample : P1001953-027 10x Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 14:40 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.92min 1417.748ng/ml

response 4076554

(+) = Expected Retention Time

06171029.D TO110510.M Fri Jun 18 08:28:33 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111009**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-028

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: 21125 Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**3.4**	**1.6**	0.096	**1.3**	0.078	
75-07-0	**Acetaldehyde**	**0.79**	**0.45**	0.11	**0.25**	0.063	
123-38-6	Propionaldehyde	< 0.20	ND	0.24	ND	0.10	
123-72-8	**Butyraldehyde**	**0.32**	**1.4**	0.86	**0.47**	0.29	
100-52-7	Benzaldehyde	< 0.20	ND	0.10	ND	0.024	
590-86-3	**Isovaleraldehyde**	**0.31**	**0.24**	0.16	**0.067**	0.044	
110-62-3	**Valeraldehyde**	**0.23**	**0.40**	0.35	**0.11**	0.10	
66-25-1	**n-Hexaldehyde**	**0.30**	**0.78**	0.53	**0.19**	0.13	

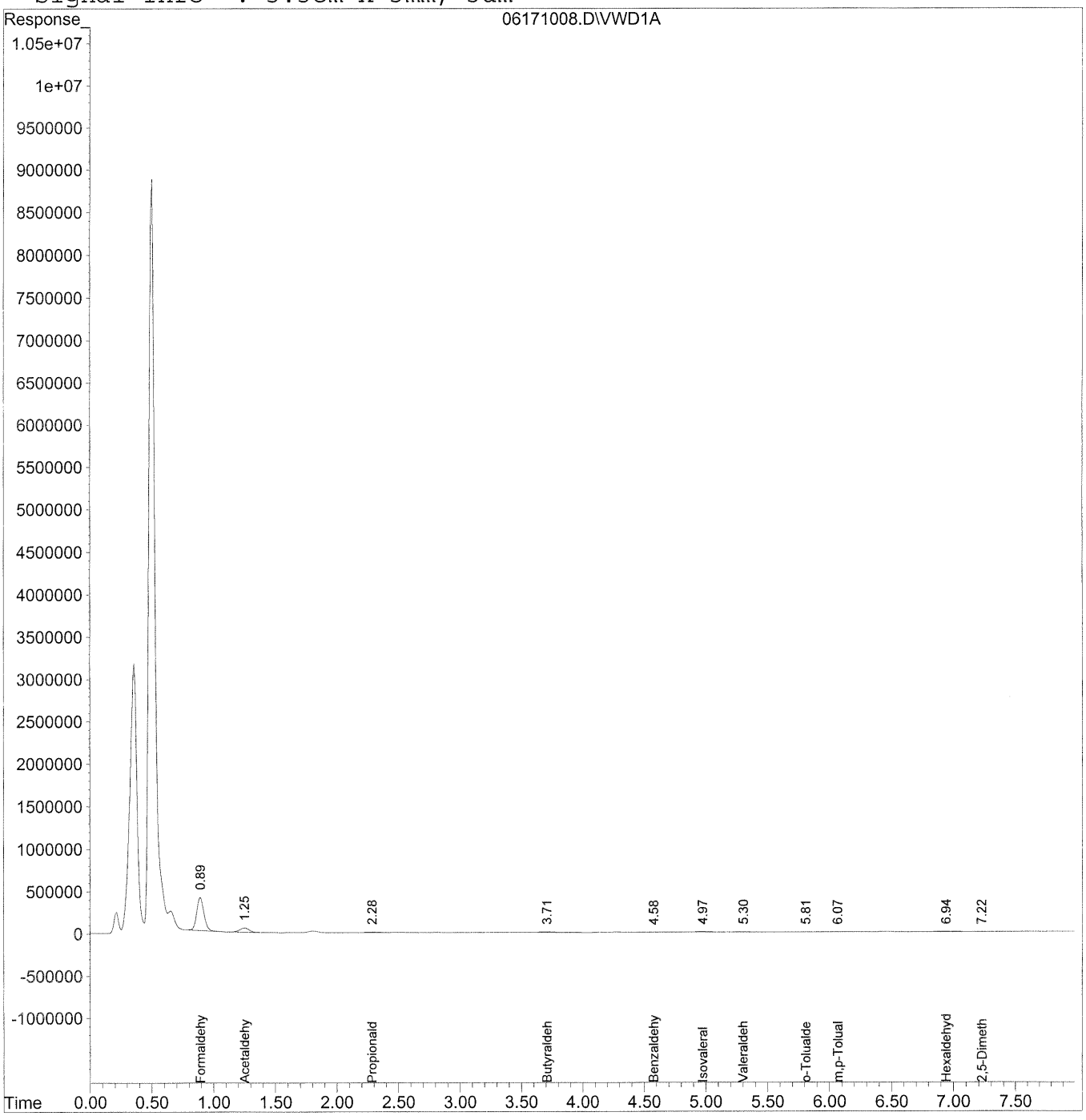
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Rc Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171008.D Vial: 106
Acq On : 17-Jun-2010, 10:47:47 Operator: HC/SM
Sample : P1001953-028 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:56 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171008.D Vial: 106
Acq On : 17-Jun-2010, 10:47:47 Operator: HC/SM
Sample : P1001953-028 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 16:56 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

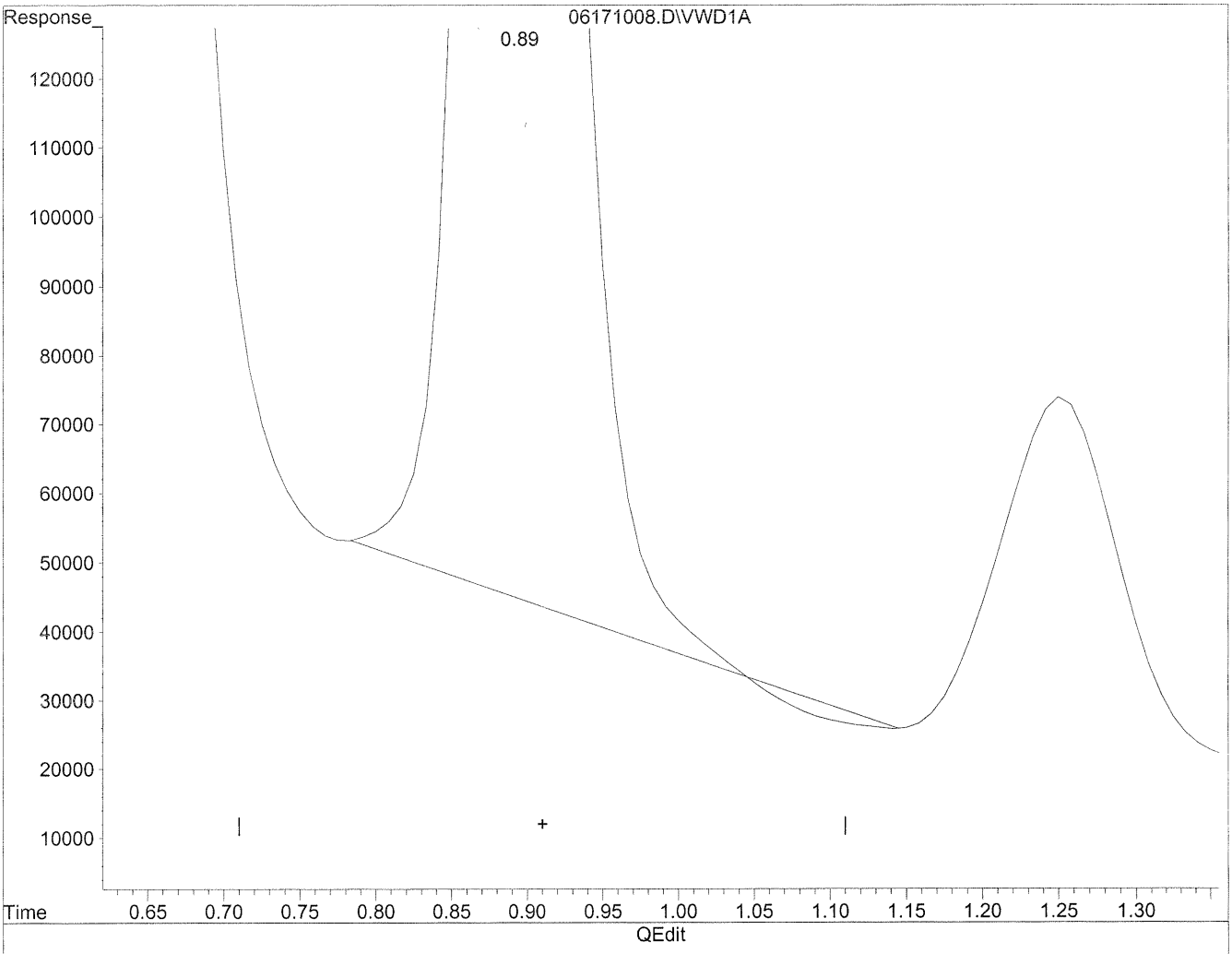
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	16009047	1715.339	ng/mlm
2)	Acetaldehyde	1.25	2663637	395.478	ng/mlm
3)	Propionaldehyde	2.29	459919	94.594	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	3.71	645413	160.180	ng/mlm
6)	Benzaldehyde	4.58	100486	37.125	ng/ml
7)	Isovaleraldehyde	4.98f	542783	152.996	ng/ml
8)	Valeraldehyde	5.31	378149	112.725	ng/ml
9)	o-Tolualdehyde	5.81	20678	10.159	ng/ml
10)	m,p-Tolualdehyde	6.07	75283	32.136	ng/ml
11)	Hexaldehyde	6.95	428784	149.123	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.23	8099	4.209	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171008.D Vial: 106
Acq On : 17-Jun-2010, 10:47:47 Operator: HC/SM
Sample : P1001953-028 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 1688.706ng/ml

response 15760482

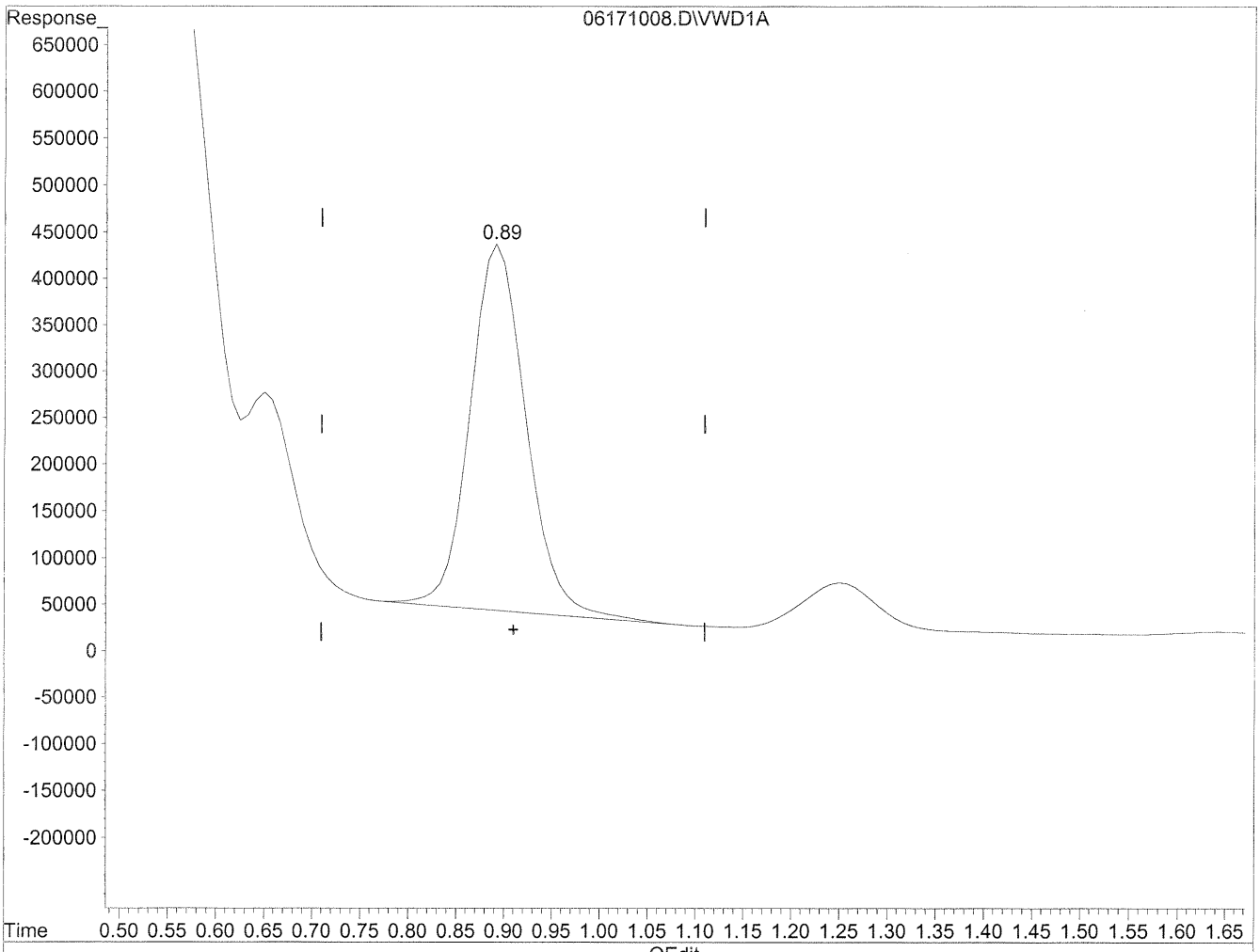
(+) = Expected Retention Time

06171008.D TO110510.M Thu Jun 17 16:55:28 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171008.D Vial: 106
Acq On : 17-Jun-2010, 10:47:47 Operator: HC/SM
Sample : P1001953-028 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 1715.339ng/ml m

response 16009047

HC 6/18/10

6/21/10

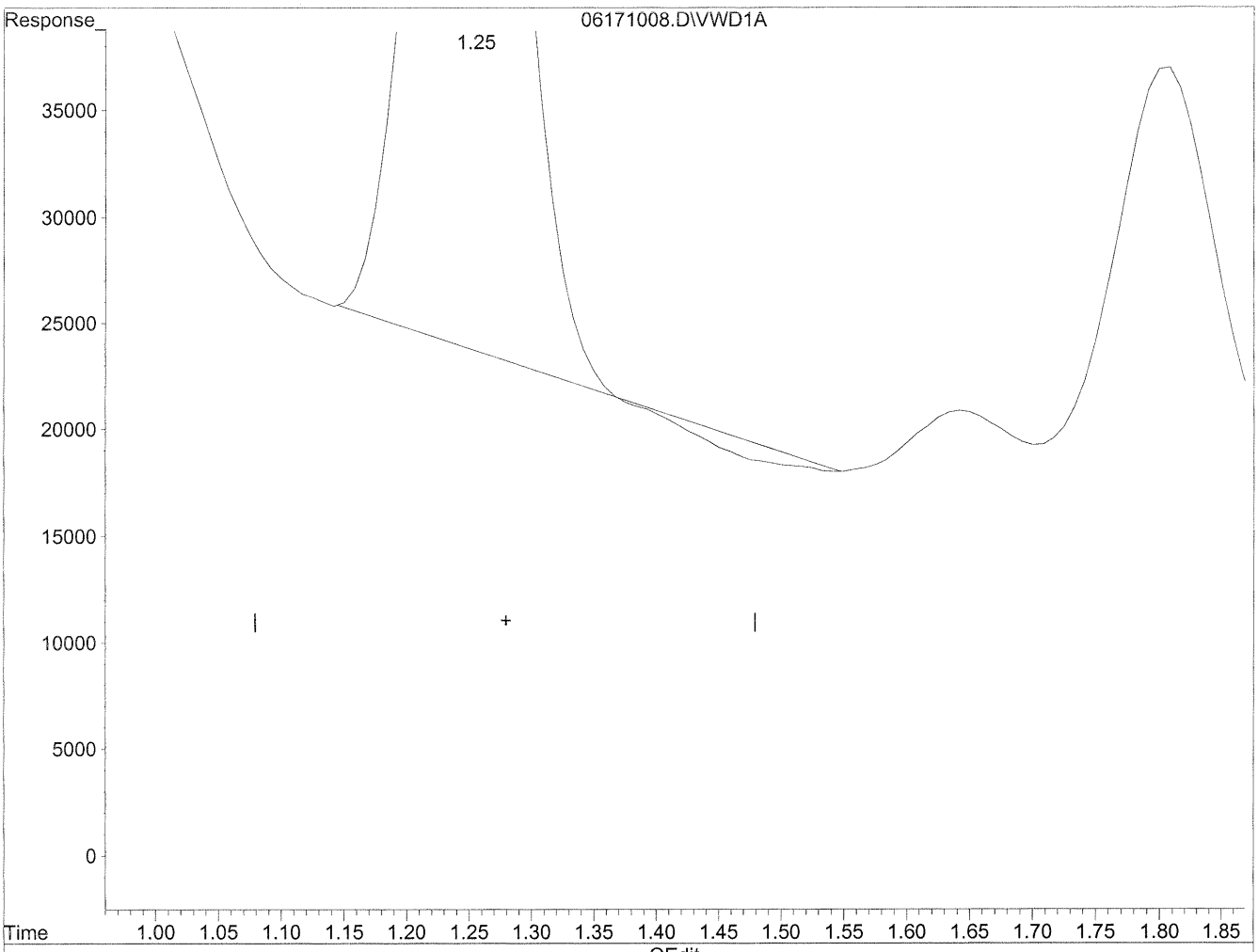
(+) = Expected Retention Time

06171008.D TO110510.M Thu Jun 17 16:55:36 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171008.D Vial: 106
Acq On : 17-Jun-2010, 10:47:47 Operator: HC/SM
Sample : P1001953-028 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.25min 388.192ng/ml

response 2614558

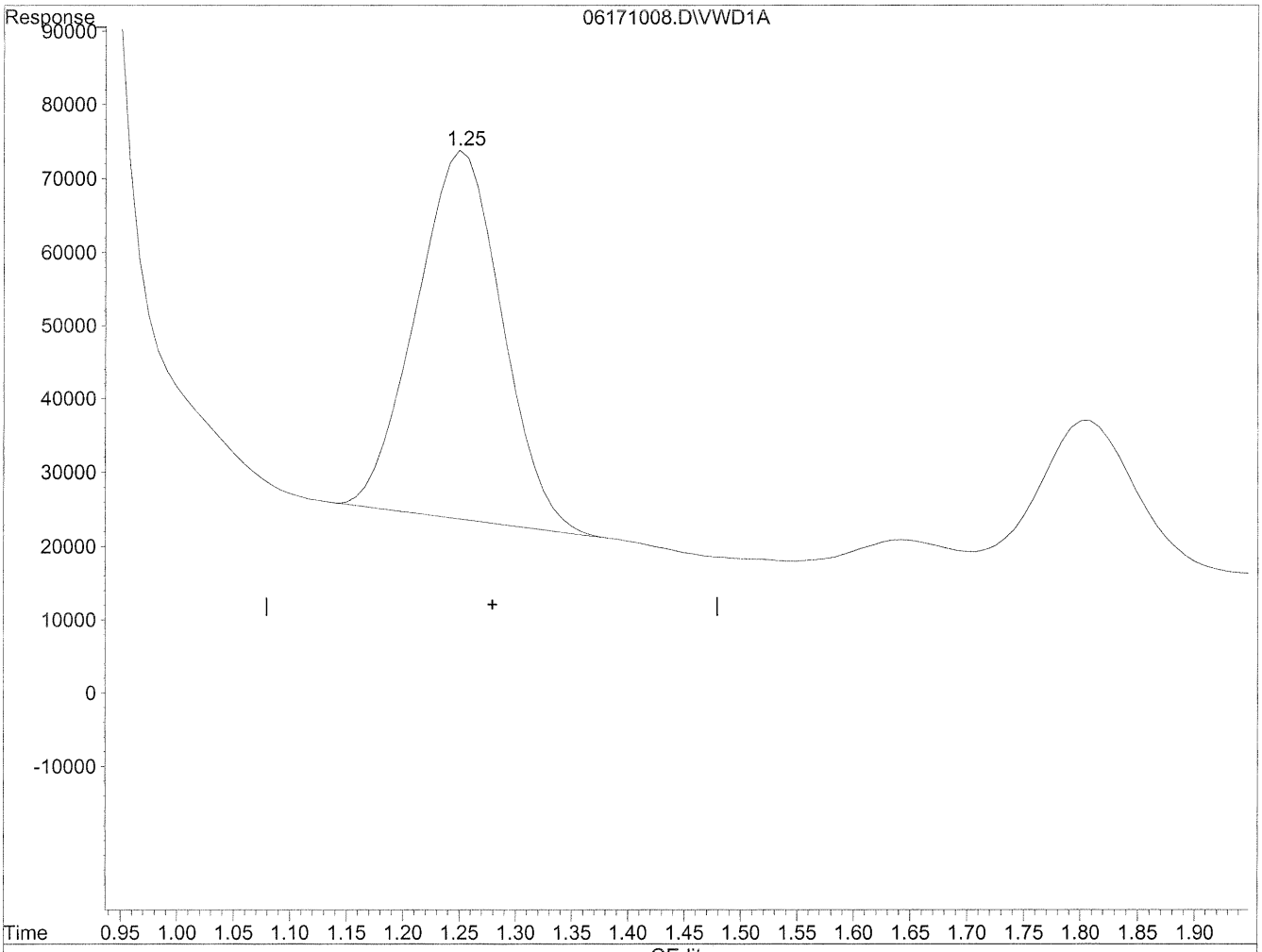
(+) = Expected Retention Time

06171008.D TO110510.M Thu Jun 17 16:55:51 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171008.D Vial: 106
Acq On : 17-Jun-2010, 10:47:47 Operator: HC/SM
Sample : P1001953-028 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



QEdit

(2) Acetaldehyde

1.25min 395.478ng/ml m

response 2663637

HC 6/18/10 IC

6/21/10

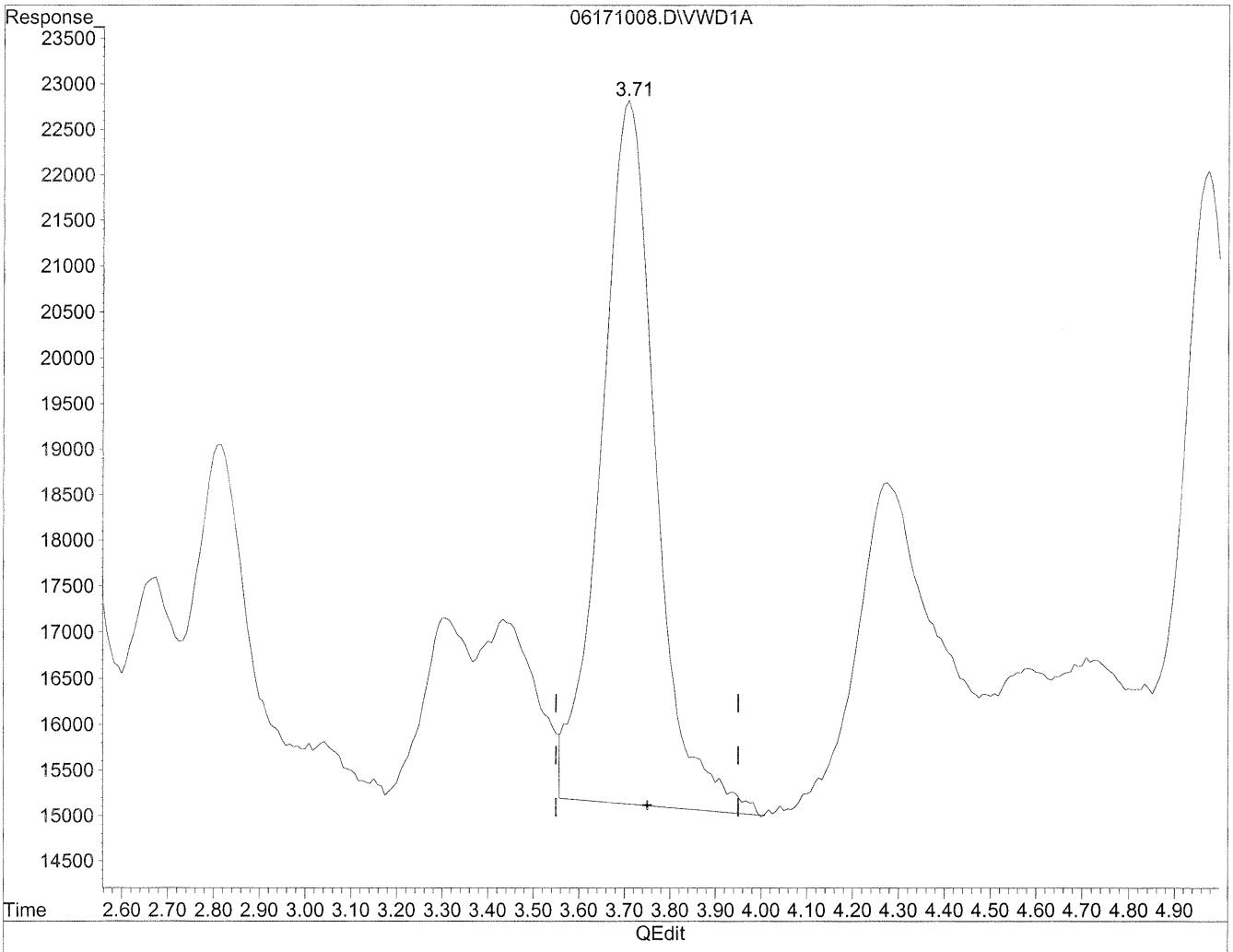
(+) = Expected Retention Time

06171008.D TO110510.M Thu Jun 17 16:55:59 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171008.D Vial: 106
Acq On : 17-Jun-2010, 10:47:47 Operator: HC/SM
Sample : P1001953-028 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.71min 159.485ng/ml

response 642615

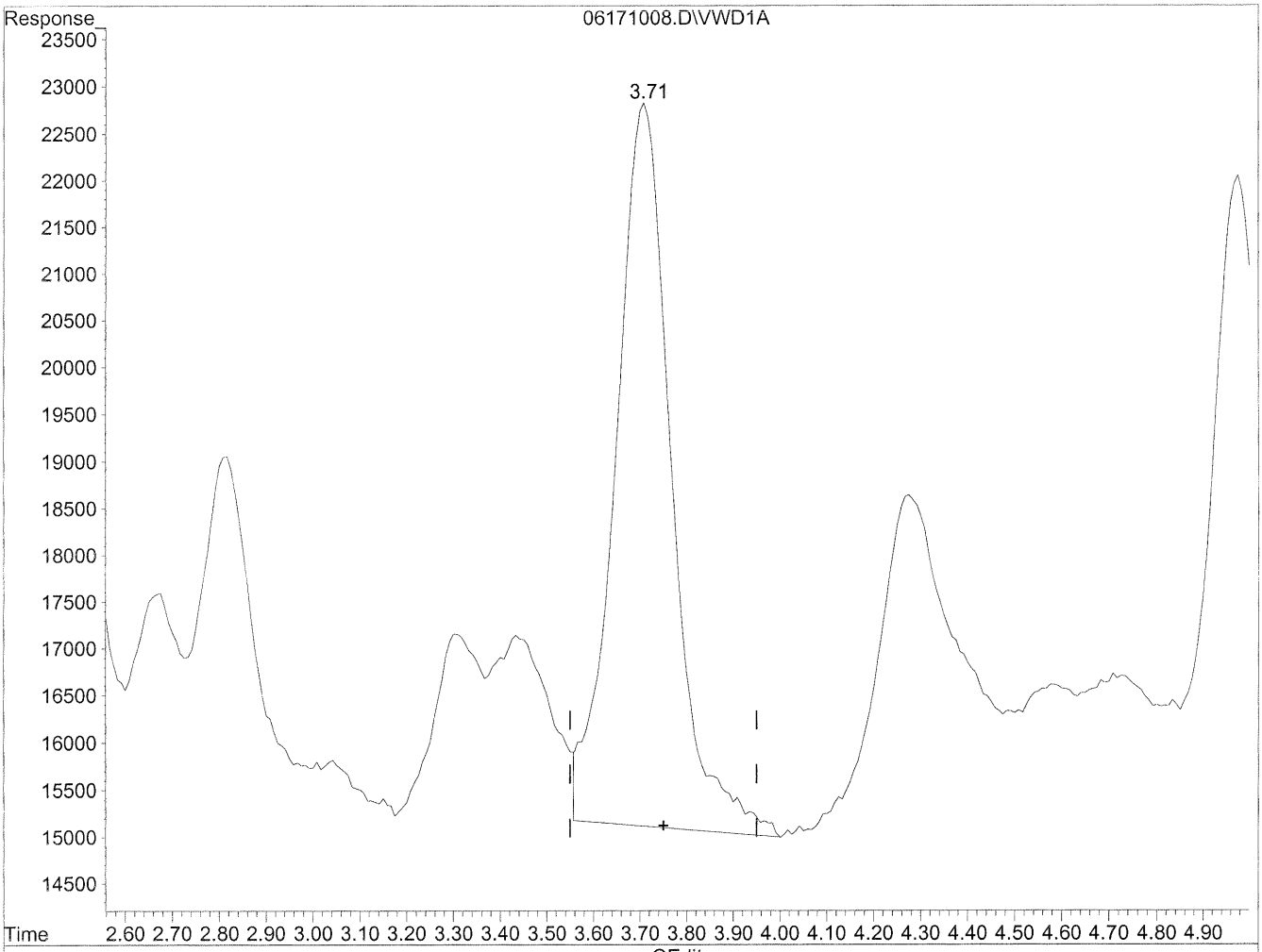
(+) = Expected Retention Time

06171008.D TO110510.M Thu Jun 17 16:56:06 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171008.D Vial: 106
Acq On : 17-Jun-2010, 10:47:47 Operator: HC/SM
Sample : P1001953-028 2ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:59 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.71min 160.180ng/ml m

response 645413

HC 6/18/10 BC 6/21/10

(+) = Expected Retention Time

06171008.D TO110510.M Thu Jun 17 16:56:18 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **111010**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P1001953-029

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: 6/4/10
Date Received: 6/5/10
Date Analyzed: 6/18/10
Desorption Volume: 2.0 ml
Sampling Time: NA Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**0.32**	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 0.20	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 0.20	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 0.20	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 0.20	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 0.20	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 0.20	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 0.20	NA	NA	NA	NA	

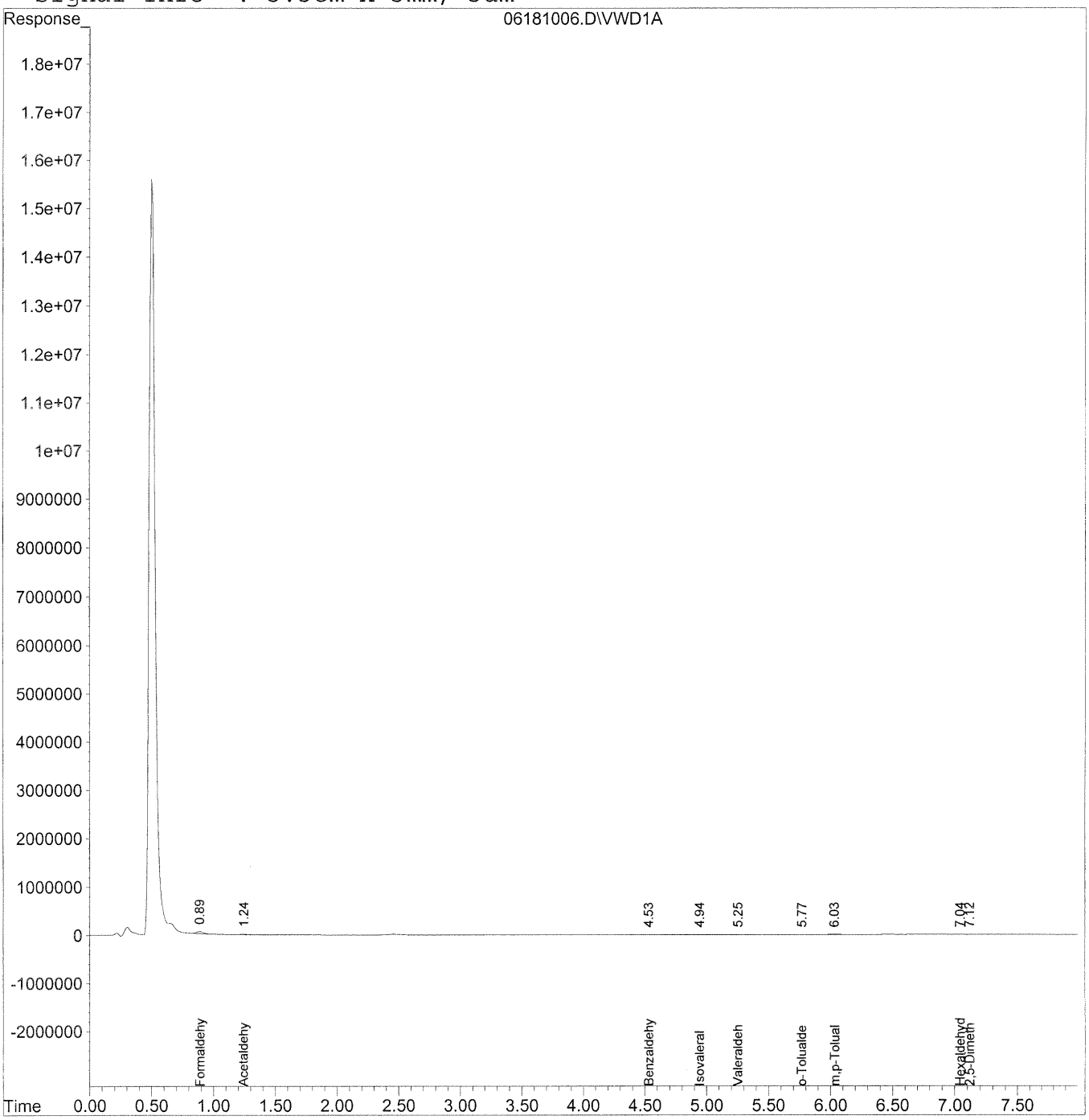
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: RC Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181006.D Vial: 103
Acq On : 18-Jun-2010, 09:59:56 Operator: HC/SM
Sample : P1001953-029 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:34 2010 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181006.D Vial: 103
Acq On : 18-Jun-2010, 09:59:56 Operator: HC/SM
Sample : P1001953-029 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:34 2010 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

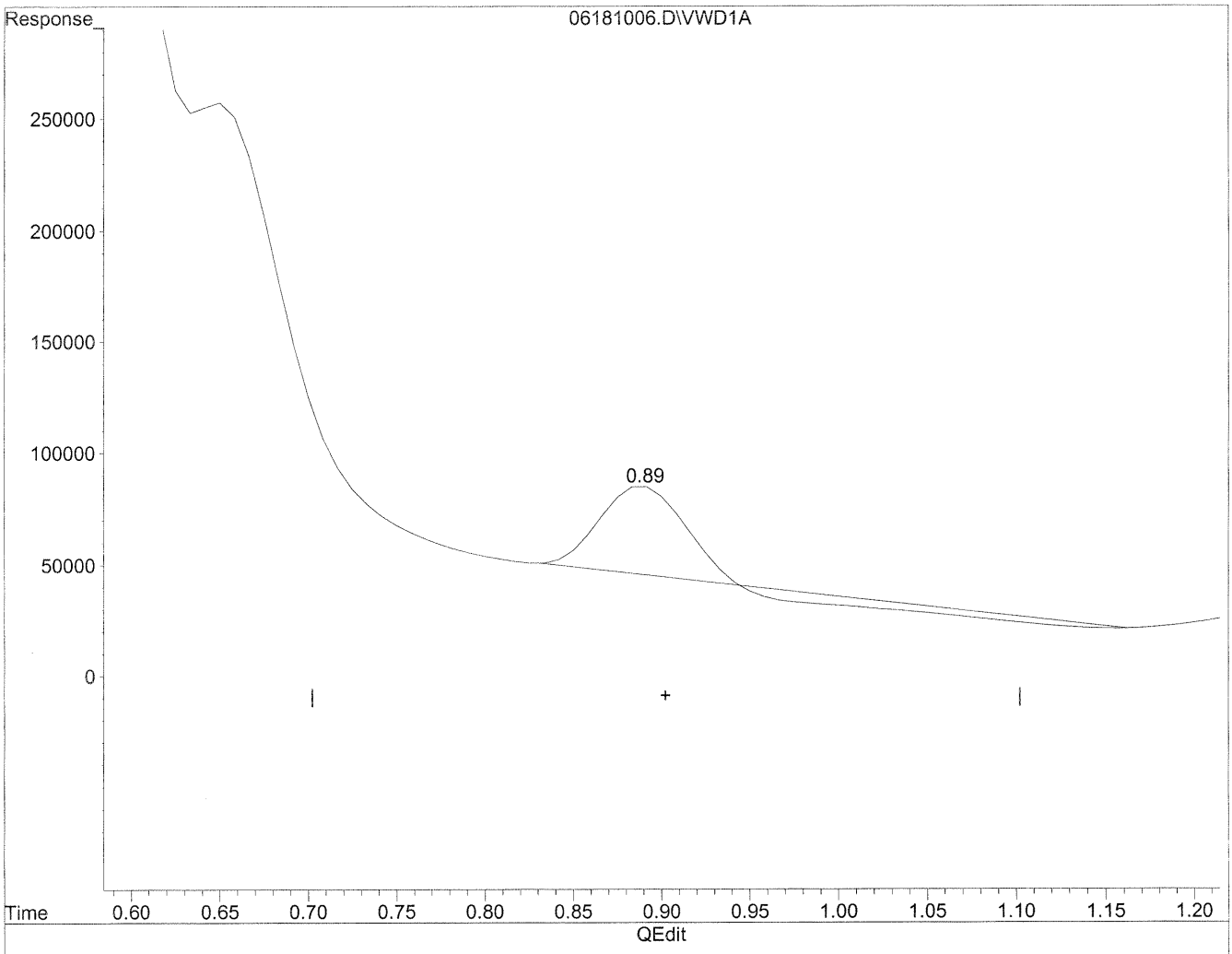
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	1509780	161.770	ng/mlm
2)	Acetaldehyde	1.24	421237	62.542	ng/mlm
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	4.53	30874	11.406	ng/ml
7)	Isovaleraldehyde	4.95f	58580	16.512	ng/ml
8)	Valeraldehyde	5.26	41776	12.453	ng/ml
9)	o-Tolualdehyde	5.78	17014	8.358	ng/ml
10)	m,p-Tolualdehyde	6.03	75658	32.297	ng/ml
11)	Hexaldehyde	7.04	36745	12.779	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.12	5227	2.717	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181006.D Vial: 103
Acq On : 18-Jun-2010, 09:59:56 Operator: HC/SM
Sample : P1001953-029 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:15 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 107.406ng/ml

response 1002403

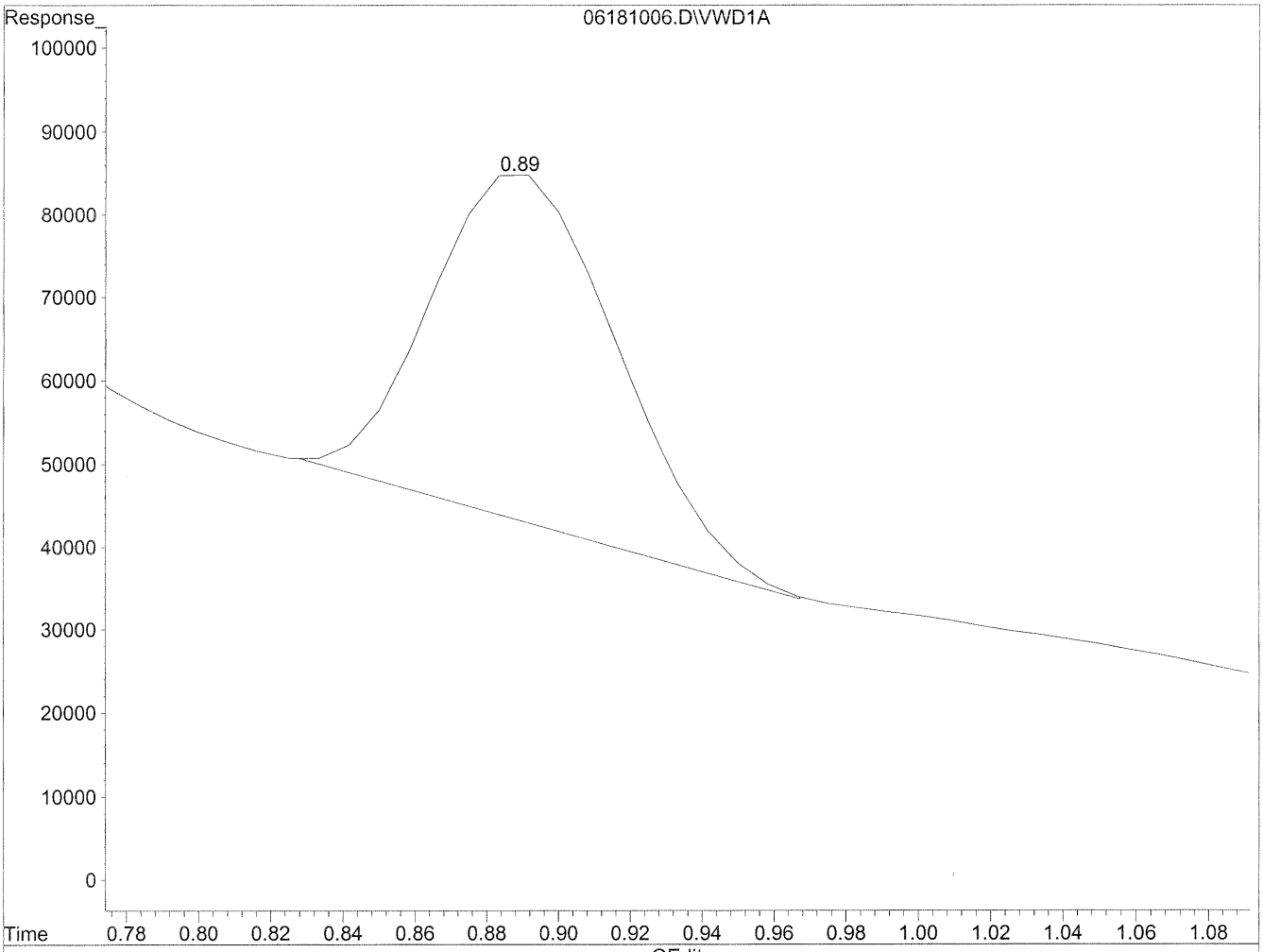
(+) = Expected Retention Time

06181006.D TO110510.M Fri Jun 18 10:34:05 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181006.D Vial: 103
Acq On : 18-Jun-2010, 09:59:56 Operator: HC/SM
Sample : P1001953-029 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:15 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(1) Formaldehyde

0.89min 161.770ng/ml m

response 1509780

Analyst did not initial & date & sent today.

6/21/10

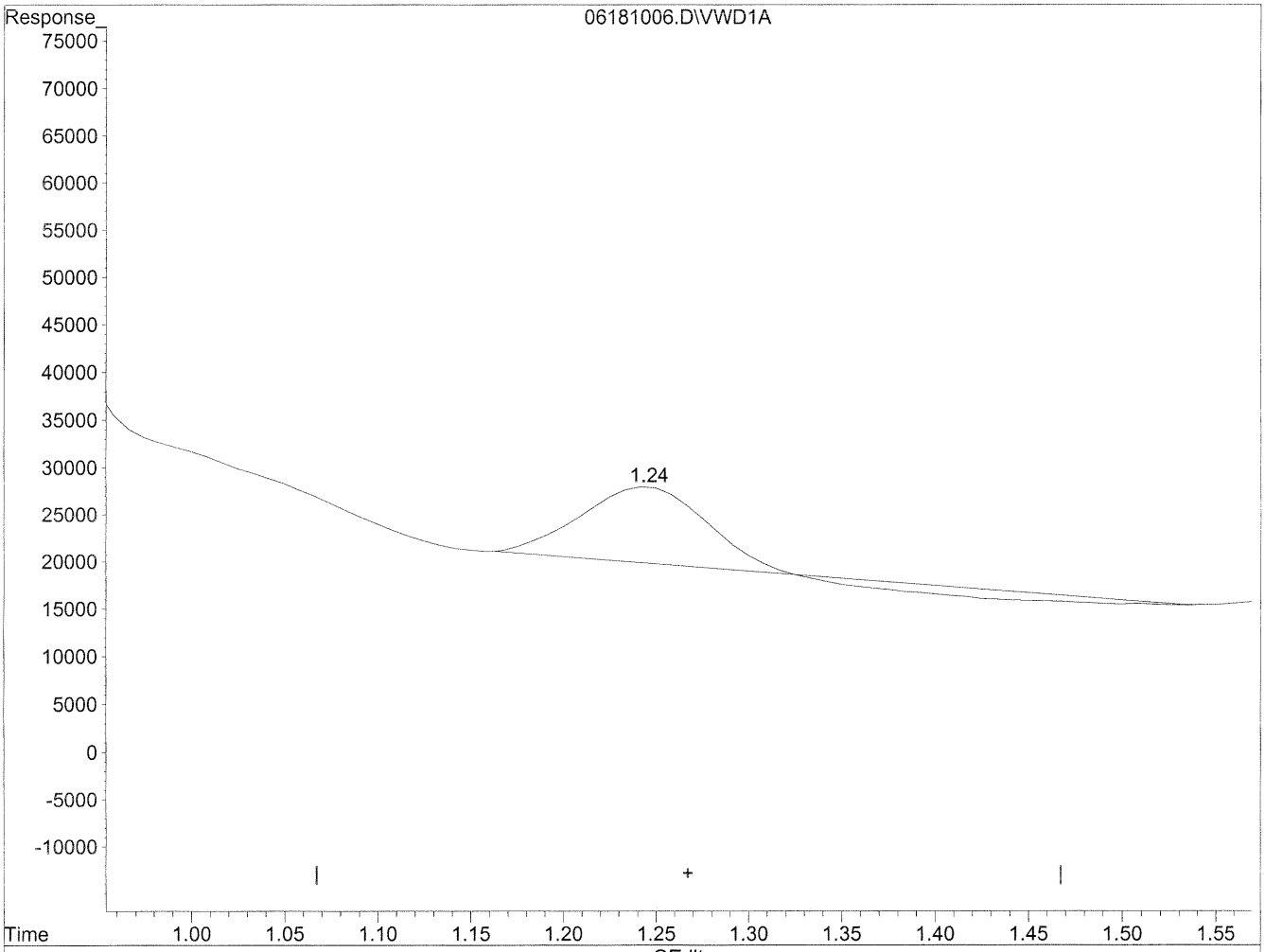
(+) = Expected Retention Time

06181006.D TO110510.M Fri Jun 18 10:34:24 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181006.D Vial: 103
Acq On : 18-Jun-2010, 09:59:56 Operator: HC/SM
Sample : P1001953-029 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:15 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.25min 46.352ng/ml

response 312194

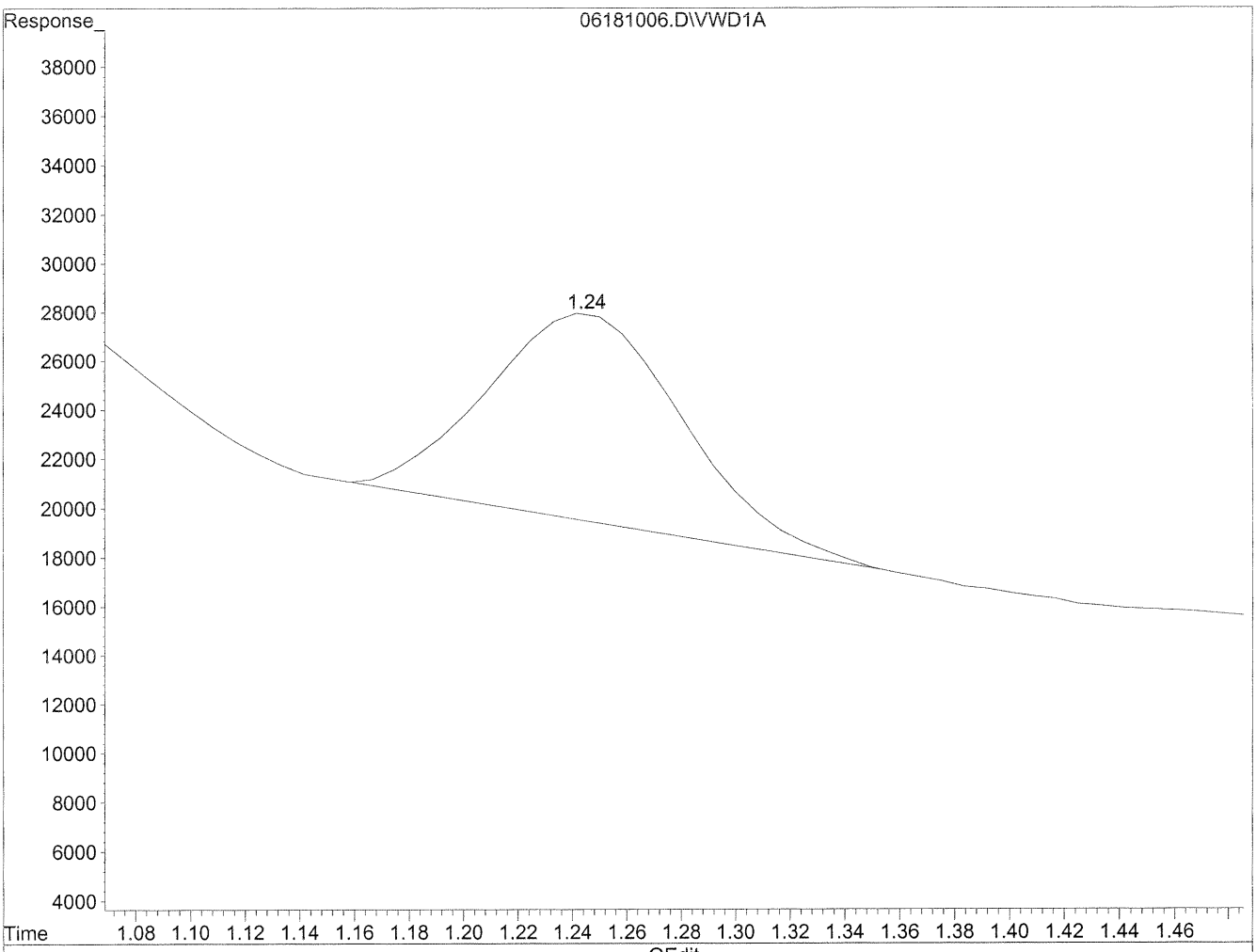
(+) = Expected Retention Time

06181006.D TO110510.M Fri Jun 18 10:34:32 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181006.D Vial: 103
Acq On : 18-Jun-2010, 09:59:56 Operator: HC/SM
Sample : P1001953-029 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:15 2010 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.24min 62.542ng/ml m

response 421237

Analyst did not initial & date & out to lab. MM 6/21/10

(+) = Expected Retention Time

06181006.D TO110510.M Fri Jun 18 10:34:41 2010

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **Reagent Blank**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P100616-RB

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: NA
Date Received: NA
Date Analyzed: 6/16/10
Desorption Volume: 2.0 ml
Sampling Time: NA Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 0.20	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 0.20	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 0.20	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 0.20	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 0.20	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 0.20	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 0.20	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 0.20	NA	NA	NA	NA	

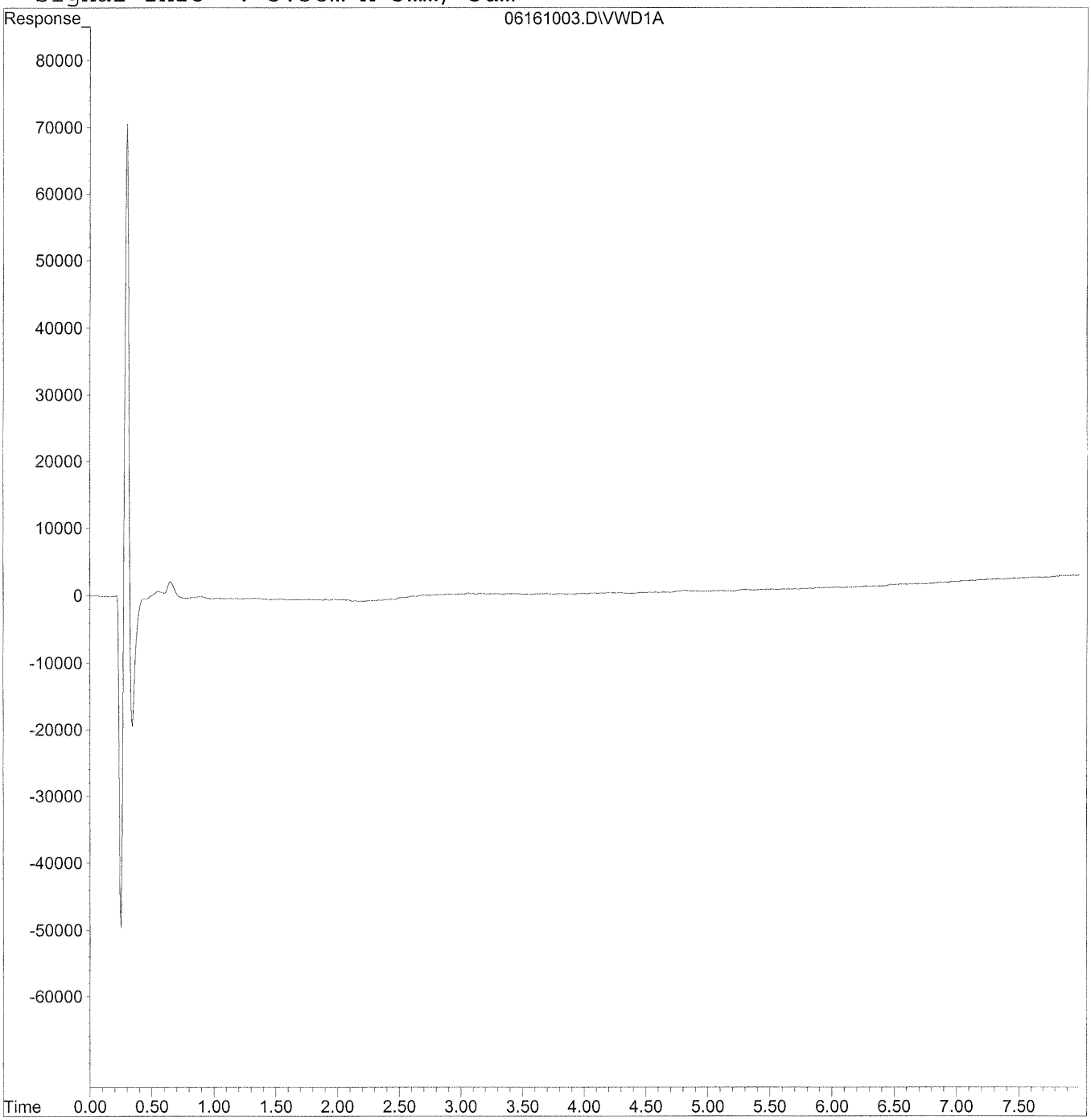
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Re Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161003.D Vial: 12
Acq On : 16-Jun-2010, 09:28:47 Operator: HC/SM
Sample : ACN Blk Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 14:12 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161003.D Vial: 12
Acq On : 16-Jun-2010, 09:28:47 Operator: HC/SM
Sample : ACN Blk Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 14:12 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.00	0	N.D.	ng/ml
2)	Acetaldehyde	0.00	0	N.D.	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	0.00	0	N.D.	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **Reagent Blank** CAS Project ID: P1001953
Client Project ID: **17131** CAS Sample ID: P100617-RB

Test Code: EPA TO-11A Date Collected: NA
Instrument ID: HP1050/UV_Vis 360/LC2 Date Received: NA
Analyst: Hani Cherazaie Date Analyzed: 6/17/10
Sampling Media: Radiello Tube Desorption Volume: 2.0 ml
Test Notes: **BC** Sampling Time: NA Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 0.20	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 0.20	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 0.20	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 0.20	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 0.20	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 0.20	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 0.20	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 0.20	NA	NA	NA	NA	

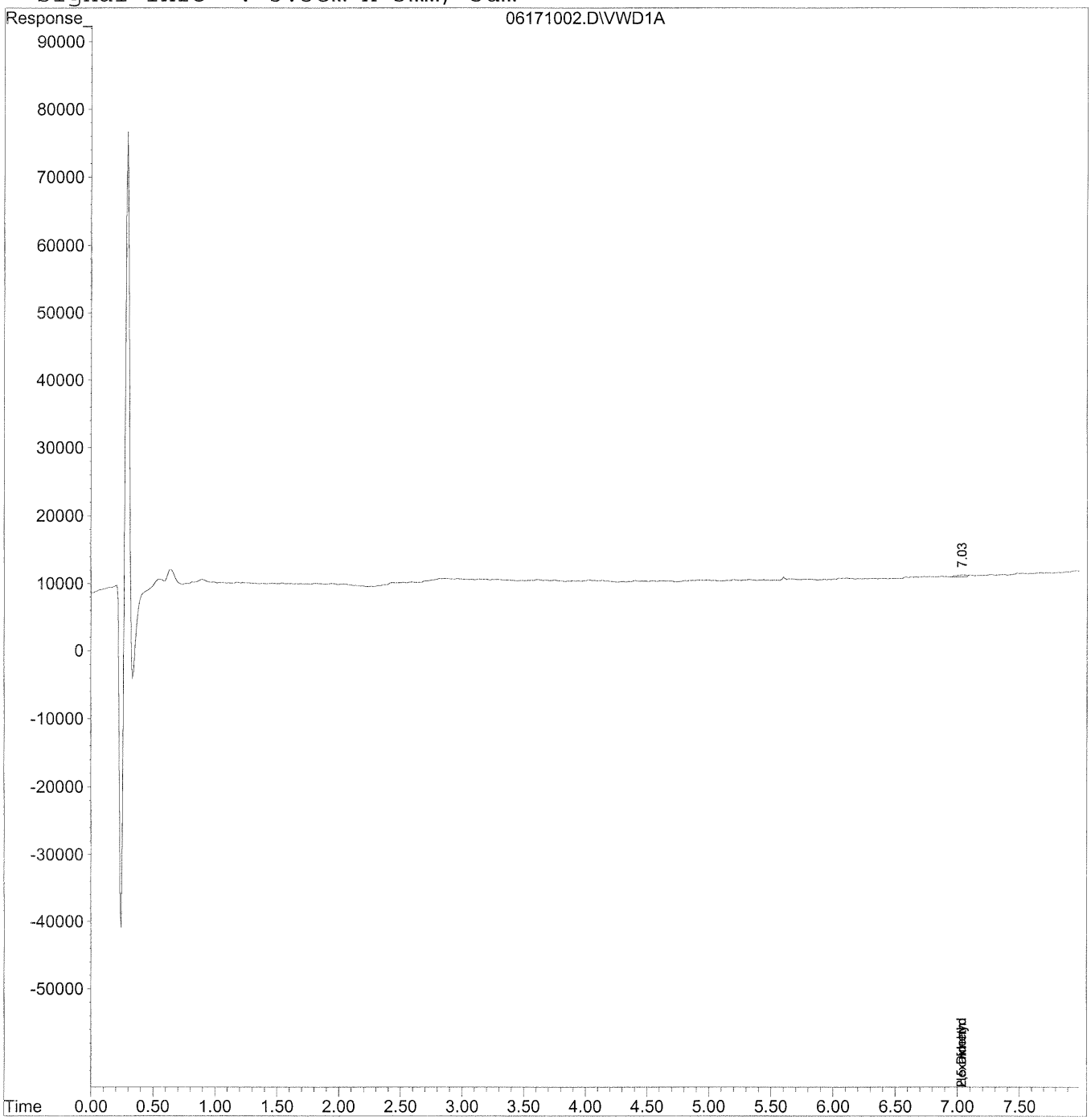
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Re Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171002.D Vial: 12
Acq On : 17-Jun-2010, 09:44:06 Operator: HC/SM
Sample : ACN Blank Lot #57196HK Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:47 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171002.D Vial: 12
Acq On : 17-Jun-2010, 09:44:06 Operator: HC/SM
Sample : ACN Blank Lot #57196HK Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:47 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.00	0	N.D.	ng/ml
2)	Acetaldehyde	0.00	0	N.D.	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	7.04	15358	5.341	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.04f	15358	7.982	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **Reagent Blank**
Client Project ID: **17131**

CAS Project ID: P1001953
CAS Sample ID: P100617-RB

Test Code: EPA TO-11A
Instrument ID: HP1050/UV_Vis 360/LC2
Analyst: Hani Cherazaie
Sampling Media: Radiello Tube
Test Notes: **BC**

Date Collected: NA
Date Received: NA
Date Analyzed: 6/17/10
Desorption Volume: 2.0 ml
Sampling Time: NA Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 0.20	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 0.20	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 0.20	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 0.20	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 0.20	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 0.20	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 0.20	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 0.20	NA	NA	NA	NA	

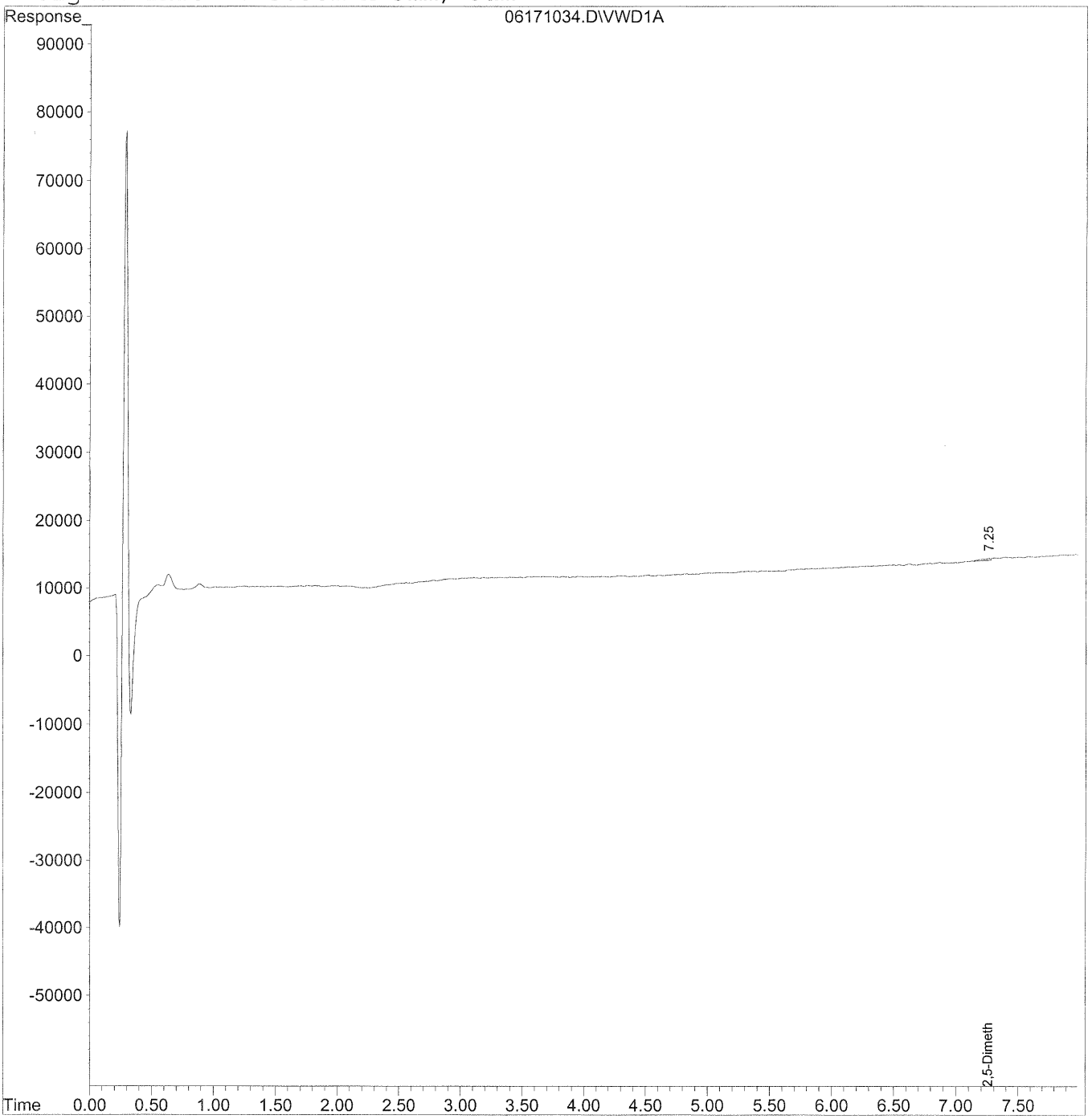
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Re. Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171034.D Vial: 11
Acq On : 17-Jun-2010, 15:17 Operator: HC/SM
Sample : acn blk Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:31 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171034.D Vial: 11
Acq On : 17-Jun-2010, 15:17 Operator: HC/SM
Sample : acn blk Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:31 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.00	0	N.D.	ng/ml
2)	Acetaldehyde	0.00	0	N.D.	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	0.00	0	N.D.	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.26	15045	7.820	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **Reagent Blank** CAS Project ID: P1001953
Client Project ID: **17131** CAS Sample ID: P100618-RB

Test Code: EPA TO-11A Date Collected: NA
Instrument ID: HP1050/UV_Vis 360/LC2 Date Received: NA
Analyst: Hani Cherazaie Date Analyzed: 6/18/10
Sampling Media: Radiello Tube Desorption Volume: 2.0 ml
Test Notes: **BC** Sampling Time: NA Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 0.20	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 0.20	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 0.20	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 0.20	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 0.20	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 0.20	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 0.20	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 0.20	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

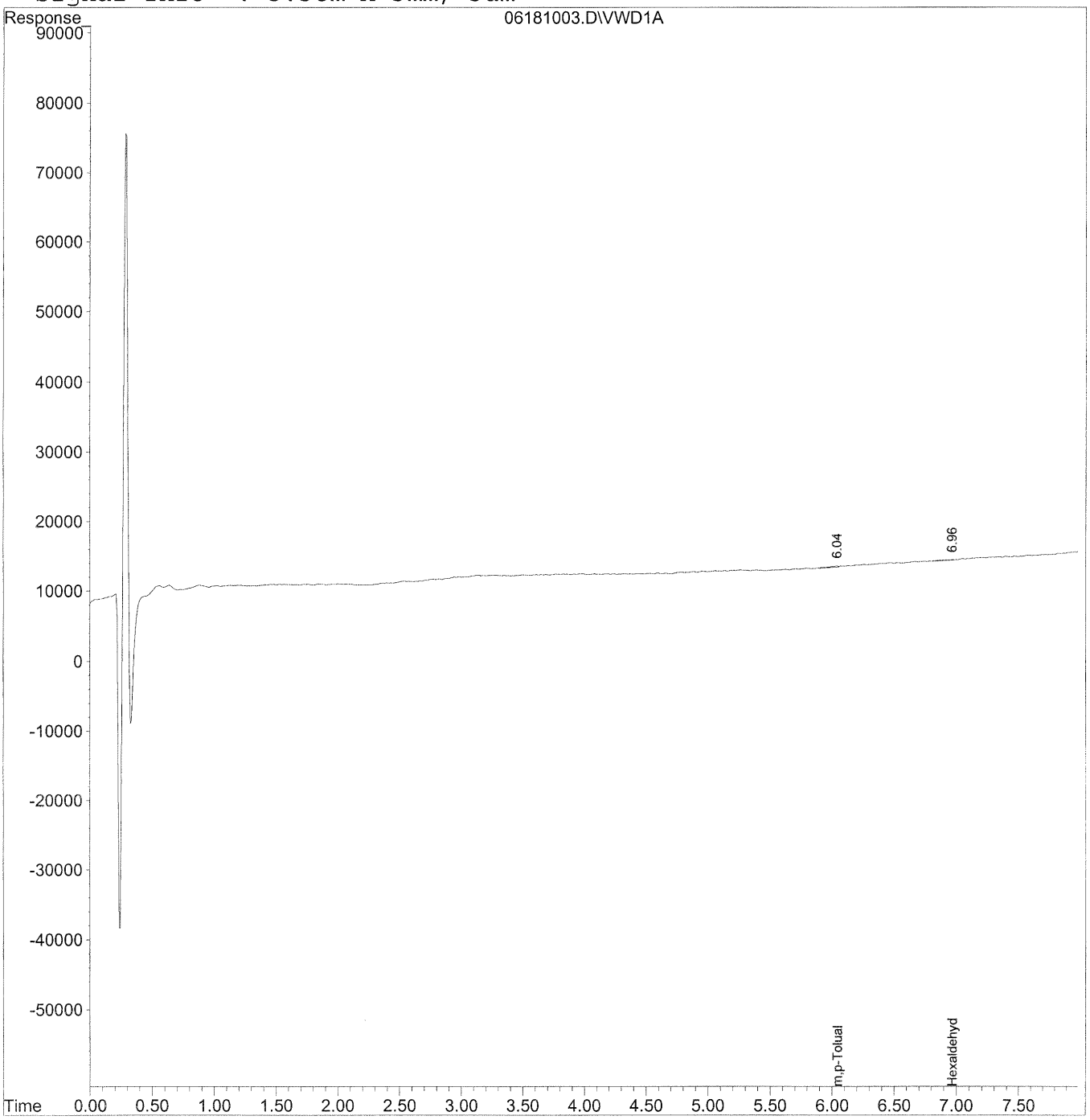
Verified By: Rev Date: 6/21/10

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181003.D Vial: 12
Acq On : 18-Jun-2010, 09:28 Operator: HC/SM
Sample : ACN Blank Lot #57196HK Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 13:19 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181003.D Vial: 12
Acq On : 18-Jun-2010, 09:28 Operator: HC/SM
Sample : ACN Blank Lot #57196HK Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 13:19 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.00	0	N.D.	ng/ml
2)	Acetaldehyde	0.00	0	N.D.	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	6.04	10889	4.648	ng/ml
11)	Hexaldehyde	6.97	6380	2.219	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Incorporated**
Client Sample ID: **Reagent Blank** CAS Project ID: P1001953
Client Project ID: **17131** CAS Sample ID: P100618-RB

Test Code:	EPA TO-11A	Date Collected:	NA
Instrument ID:	HP1050/UV_Vis 360/LC2	Date Received:	NA
Analyst:	Hani Cherazaie	Date Analyzed:	6/18/10
Sampling Media:	Radiello Tube	Desorption Volume:	2.0 ml
Test Notes:	**BC**	Sampling Time:	NA Minutes

CAS #	Compound	Result µg/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 0.20	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 0.20	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 0.20	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 0.20	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 0.20	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 0.20	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 0.20	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 0.20	NA	NA	NA	NA	

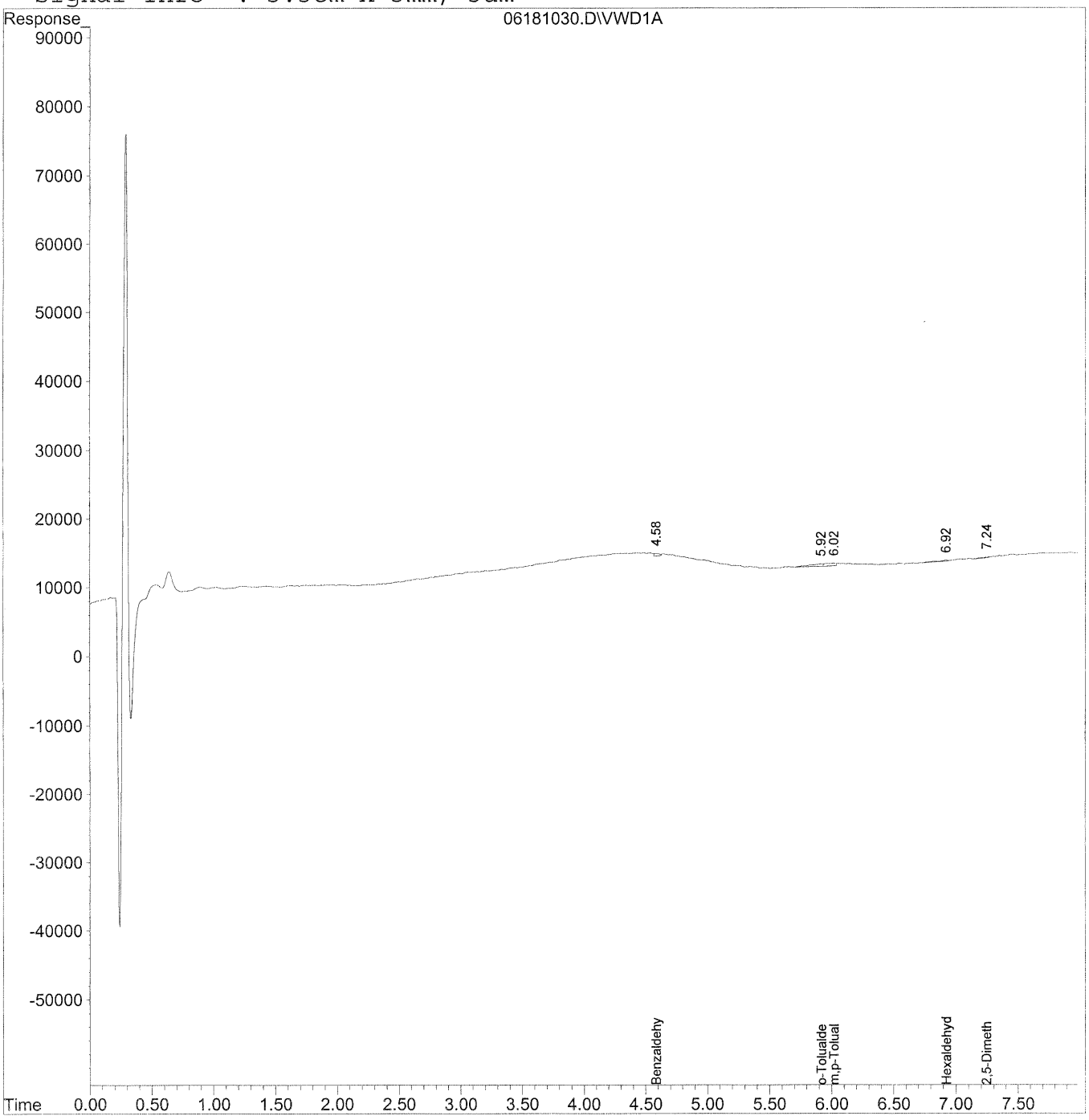
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

Verified By: Rev Date: 6/21/10

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181030.D Vial: 12
Acq On : 18-Jun-2010, 14:12 Operator: HC/SM
Sample : ACN Blank Lot #57196HK Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 14:25 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181030.D Vial: 12
Acq On : 18-Jun-2010, 14:12 Operator: HC/SM
Sample : ACN Blank Lot #57196HK Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 21 14:25 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.00	0	N.D.	ng/ml
2)	Acetaldehyde	0.00	0	N.D.	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	4.59	11216	4.144	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	5.92f	26238	12.890	ng/ml
10)	m,p-Tolualdehyde	6.02	22353	9.542	ng/ml
11)	Hexaldehyde	6.92	10355	3.601	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.25	6268	3.258	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

INITIAL CALIBRATION STANDARDS

Response Factor Report VWD

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:47:19 2010

Calibration Files
50 =05121008.D 100 =05121011.D 500 =05121014.D
1500 =05121017.D 5000 =05121020.D 10 =05121023.D

	Compound	50	100	500	1500	5000	10	Avg		%RSD
1)	Formaldehyde	0.927	0.934	0.894	0.929	1.004	0.911	0.933	E4	4.03
2)	Acetaldehyde	6.435	6.593	6.461	6.799	7.405	6.718	6.735	E3	5.30
3)	Propionaldehyde	4.089	4.507	4.760	4.870	5.706	5.241	4.862	E3	11.60
4)	Crotonaldehyde	3.729	3.953	3.975	4.144	4.520	4.135	4.076	E3	6.51
5)	Butyraldehyde	3.693	3.867	4.012	3.946	4.495	4.163	4.029	E3	6.85
6)	Benzaldehyde	2.617	2.492	2.541	2.657	3.116	2.817	2.707	E3	8.49
7)	Isovaleraldehyde	3.241	3.467	3.402	3.685	3.927	3.565	3.548	E3	6.72
8)	Valeraldehyde	3.149	3.271	3.252	3.258	3.731	3.466	3.355	E3	6.30
9)	o-Tolualdehyde	1.652	1.866	1.917	2.116	2.416	2.245	2.036	E3	13.62
10)	m,p-Tolualdehyde	2.206	2.124	2.206	2.401	2.663	2.456	2.343	E3	8.62
11)	Hexaldehyde	2.790	2.711	2.848	2.774	3.180	2.950	2.875	E3	5.90
12)	2,5-Dimethylbenzald	1.602	1.745	1.826	2.026	2.244	2.100	1.924	E3	12.50

5/14/10

5/13/10

(#) = Out of Range

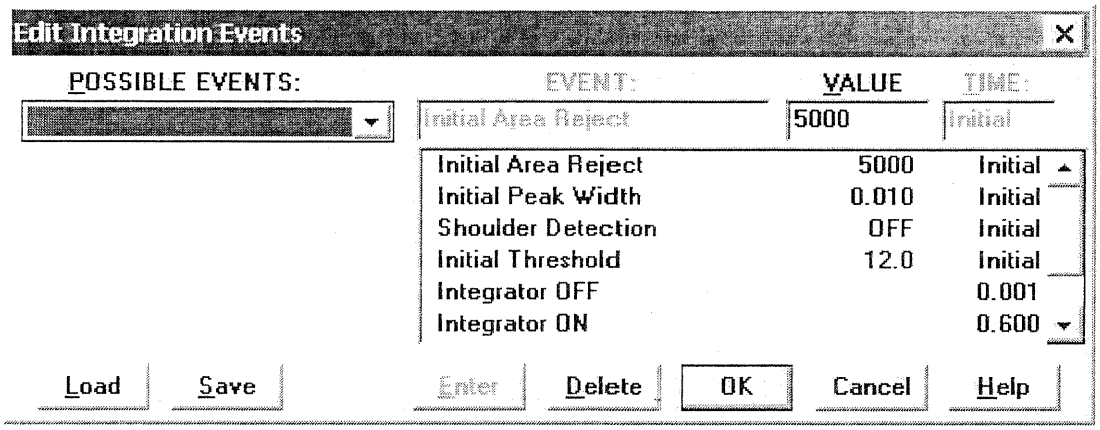
Calibration Status Report VWD

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:47:19 2010
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	50	50.00	0.00	J:\LC02\DATA\TO11A\2010_05\12\05121008.D
2	100	100.00	0.00	J:\LC02\DATA\TO11A\2010_05\12\05121011.D
3	500	500.00	0.00	J:\LC02\DATA\TO11A\2010_05\12\05121014.D
4	1500	1500.00	0.00	J:\LC02\DATA\TO11A\2010_05\12\05121017.D
5	5000	5000.00	0.00	J:\LC02\DATA\TO11A\2010_05\12\05121020.D
6	10	10000.00	0.00	J:\LC02\DATA\TO11A\2010_05\12\05121023.D

#	ID	Update Time	Quant Time	Acquisition Time
1	50	May 13 11:15 2010	May 13 11:14 19110	12-May-2010, 13:29
2	100	May 13 11:19 2010	May 13 10:38 19110	12-May-2010, 14:01
3	500	May 13 11:24 2010	May 13 11:23 19110	12-May-2010, 14:33
4	1500	May 13 11:26 2010	May 13 11:25 19110	12-May-2010, 15:04
5	5000	May 13 11:27 2010	May 13 11:27 19110	12-May-2010, 16:05
6	10	May 13 11:30 2010	May 13 11:29 19110	12-May-2010, 16:37

TO110510.M Thu May 13 11:57:16 2010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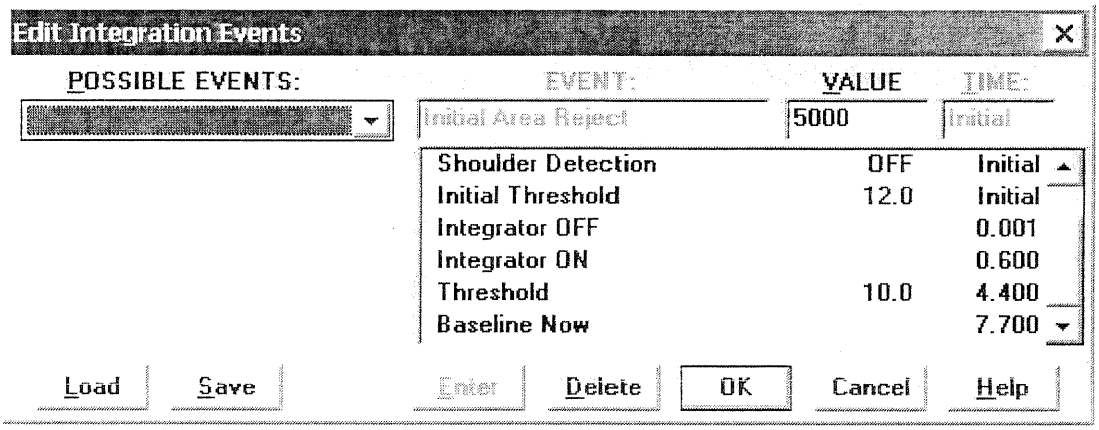
EVENT:
VALUE
TIME:
Initial Area Reject
5000
Initial
Initial Area Reject 5000 Initial
Initial Peak Width 0.010 Initial
Shoulder Detection OFF Initial
Initial Threshold 12.0 Initial
Integrator OFF 0.001
Integrator ON 0.600
Load
Save
Enter
Delete
OK
Cancel
Help


Edit Integration Events
POSSIBLE EVENTS:
EVENT:
VALUE
TIME:
Initial Area Reject
5000
Initial
Shoulder Detection OFF Initial
Initial Threshold 12.0 Initial
Integrator OFF 0.001
Integrator ON 0.600
Threshold 10.0 4.400
Baseline Now 7.700
Load
Save
Enter
Delete
OK
Cancel
Help

TO-11A Aldehyde-DNPH Stock Solution Standard S21-06300801

Source: AccuStandard Inc.
Catalog No: M-8315-R2-DNPH
Lot : B8060121
Solvent: ACN
Expiration Date: 06/12/11

	MW	Aldehyde-DNPH MW*	Manufacturer Prepared Concentration as Aldehyde-DNPH (ug/mL)	Calculated Concentration as Aldehyde (ug/mL)	ICV S21-03091003 (nominal ng/mL)	ICV S21-03091003 (Actual, ng/mL)	% Diff
Formaldehyde	30.03	210.03	100	14.30	1430	1534.13	7.28%
Acetaldehyde	44.05	224.05	100.2	19.70	1970	2142.41	8.75%
Acetone	58.08	238.08	100.2	24.44	2444	not reported	
Acrolein	56.06	236.06	103.1	24.48	2448	not reported	
Propionaldehyde	58.08	238.08	100.2	24.44	2444	2766.34	13.19%
Crotonaldehyde	70.09	250.09	100.2	28.08	2808	3109.26	10.73%
Butyraldehyde	72.11	252.11	100	28.60	2860	3196.04	11.75%
Benzaldehyde	106.12	286.12	100	37.09	3709	4051.75	9.24%
Isovaleraldehyde	86.13	266.13	100.2	32.43	3243	3526.45	8.74%
Valeraldehyde	86.13	266.13	100.1	32.40	3240	3650.81	12.68%
o-Tolualdehyde	120.15	300.15	100.1	40.07	4007	4522.39	12.86%
m,p-Tolualdehyde	120.15	300.15	100.3	80.30	8030	9008.37	12.18%
Hexaldehyde	100.16	280.16	100.3	35.86	3586	3748.57	4.53%
2,5-Dimethylbenzaldehyde	134.18	314.18	100.3	42.84	4284	4895.63	14.28%

(* MW of DNPH is 198g/mol. The result of a nucleophilic reaction of aldehyde & DNPH is a hydrazone derivative with the loss of H20, 18g/mol)

COMPOUND	50	100	500	1500	5000	10000	AVERAGE	SD	%RSD
Formaldehyde	9274.72	9.34E+03	8.94E+03	9.29E+03	1.00E+04	9.11E+03	9.33E+03	3.76E+02	4.03%
Acetaldehyde	6435.486667	6.59E+03	6.46E+03	6.80E+03	7.40E+03	6.72E+03	6.74E+03	3.57E+02	5.30%
Propionaldehyde	4089.186667	4.51E+03	4.76E+03	4.87E+03	5.71E+03	5.24E+03	4.86E+03	5.64E+02	11.60%
Crotonaldehyde	3728.786667	3.95E+03	3.98E+03	4.14E+03	4.52E+03	4.14E+03	4.08E+03	2.65E+02	6.51%
Butyraldehyde	3693.113333	3.87E+03	4.01E+03	3.95E+03	4.49E+03	4.16E+03	4.03E+03	2.76E+02	6.85%
Benzaldehyde	2617.433333	2.49E+03	2.54E+03	2.66E+03	3.12E+03	2.82E+03	2.71E+03	2.30E+02	8.49%
Isovaleraldehyde	3241.306667	3.47E+03	3.40E+03	3.68E+03	3.93E+03	3.56E+03	3.55E+03	2.39E+02	6.72%
Valeraldehyde	3148.94	3.27E+03	3.25E+03	3.26E+03	3.73E+03	3.47E+03	3.35E+03	2.11E+02	6.30%
o-Tolualdehyde	1652.453333	1.87E+03	1.92E+03	2.12E+03	2.42E+03	2.24E+03	2.04E+03	2.77E+02	13.62%
m,p-Tolualdehyde	2206.243333	2.12E+03	2.21E+03	2.40E+03	2.66E+03	2.46E+03	2.34E+03	2.02E+02	8.62%
Hexaldehyde	2789.513333	2.71E+03	2.85E+03	2.77E+03	3.18E+03	2.95E+03	2.88E+03	1.70E+02	5.90%
2,5-Dimethylbenzaldehyde	1602.286667	1.75E+03	1.83E+03	2.03E+03	2.24E+03	2.10E+03	1.92E+03	2.40E+02	12.50%

COLUMBIA ANALYTICAL SERVICES, INC.

Method: TO-11A
Analyst: MD

Printed : 05/13/10
Instrument : LC#02
Date Analysis : 05/12/10
Detector : UV-VIS 360
Sample Amount : 3ul

MD 5/13/10

HC 5/19/10

CALIBRATION RESPONSE FACTOR SUMMARY

Calibration Level	Form-Aldehyde	% rpd	Acet-Aldehyde	% rpd	Propion-Aldehyde	% rpd	Croton-Aldehyde	% rpd	Butyr-Aldehyde	% rpd	Benz-Aldehyde	% rpd
50ng/ml TO-11A S2	469519	1.25%	331942	3.16%	206402	0.95%	182213	2.27%	188187	1.91%	132575	1.30%
50ng/ml TO-11A S2	455638	1.75%	314805	2.17%	210977	3.19%	184135	1.24%	181534	1.69%	129097	1.36%
50ng/ml TO-11A S2	466051	0.50%	318576	0.99%	195999	4.14%	192970	3.50%	184246	0.22%	130943	0.05%
100ng/ml TO-11A S	932611	0.14%	659740	0.06%	447517	0.70%	408188	3.27%	398668	3.10%	261667	5.00%
100ng/ml TO-11A S	917821	1.72%	647445	1.80%	451764	0.25%	401686	1.62%	372831	3.58%	242805	2.57%
100ng/ml TO-11A S	951325	1.86%	670834	1.74%	452686	0.45%	375949	4.89%	388508	0.48%	243134	2.43%
500ng/ml TO-11A S	4495617	0.55%	3259809	0.90%	2404725	1.05%	2002003	0.73%	2023401	0.86%	1278175	0.62%
500ng/ml TO-11A S	4417710	1.20%	3209279	0.66%	2333955	1.93%	1948793	1.95%	1961887	2.21%	1268692	0.13%
500ng/ml TO-11A S	4500287	0.65%	3222875	0.24%	2400632	0.88%	2011898	1.22%	2033218	1.35%	1264097	0.49%
1500ng/ml TO-11A	13999341	0.47%	10223963	0.25%	7284521	0.28%	6216075	0.01%	5951623	0.56%	4014948	0.74%
1500ng/ml TO-11A	13920129	0.09%	10226975	0.28%	7416669	1.53%	6289446	1.19%	5960039	0.70%	3993221	0.19%
1500ng/ml TO-11A	13880198	0.38%	10143044	0.54%	7213023	1.26%	6140533	1.20%	5843556	1.26%	3948746	0.93%
5000ng/ml TO-11A	49980790	0.44%	36771790	0.68%	28171144	1.26%	22456169	0.65%	22281068	0.86%	15502410	0.50%
5000ng/ml TO-11A	50223054	0.05%	37132798	0.29%	28599753	0.24%	22549780	0.23%	22489469	0.07%	15578511	0.01%
5000ng/ml TO-11A	50395021	0.39%	37166980	0.39%	28819385	1.01%	22800716	0.88%	22650396	0.79%	15658234	0.50%
10000ng/ml TO-11 S	90709672	0.45%	66890029	0.43%	52244063	0.32%	41174859	0.44%	41459691	0.42%	28054819	0.42%
10000ng/ml TO-11 S	91183852	0.07%	67226101	0.07%	52545859	0.26%	41390037	0.09%	41669737	0.09%	28191466	0.07%
10000ng/ml TO-11 S	91472042	0.38%	67416123	0.36%	52440027	0.06%	41499442	0.35%	41771054	0.33%	28269761	0.35%

COLUMBIA ANALYTICAL SERVICES, INC.

Method: TO-11A
Analyst:

Printed : 05/13/10
Instrument : LC#02
Date Analysis : 05/12/10
Detector : UV-VIS 360
Sample Amount : 3ul

MD 5/13/10

HC 5/19/10

CALIBRATION RESPONSE FACTOR SUMMARY

Calibration Level	Isovaler-Aldehyde	% rpd	Valer-Aldehyde	% rpd	o-Tolu-Aldehyde	% rpd	m,p-Tolu-Aldehyde	% rpd	Hex-Aldehyde	% rpd	2,5-Dimethl benz-Aldehyde	% rpd
50ng/ml TO-11A S2	155641	3.96%	150293	4.54%	87129	5.45%	234231	6.17%	154688	10.91%	83574	4.32%
50ng/ml TO-11A S2	163123	0.65%	159085	1.04%	79874	3.33%	197795	10.35%	135007	3.20%	79484	0.79%
50ng/ml TO-11A S2	167432	3.31%	162963	3.50%	80865	2.13%	229847	4.18%	128732	7.70%	77285	3.53%
100ng/ml TO-11A S	350261	1.04%	328444	0.41%	187057	0.22%	435423	2.49%	275782	1.73%	172979	0.88%
100ng/ml TO-11A S	341552	1.48%	328463	0.42%	186724	0.04%	413632	2.64%	272471	0.51%	179109	2.64%
100ng/ml TO-11A S	348203	0.44%	324388	0.83%	186168	0.26%	425466	0.15%	265000	2.24%	171438	1.76%
500ng/ml TO-11A S	1711547	0.61%	1638320	0.75%	938923	2.05%	2231369	1.16%	1388874	2.46%	900771	1.35%
500ng/ml TO-11A S	1654372	2.75%	1590849	2.17%	924147	3.60%	2119427	3.91%	1443384	1.37%	923075	1.10%
500ng/ml TO-11A S	1737363	2.13%	1649238	1.42%	1012766	5.65%	2266322	2.75%	1439322	1.09%	915366	0.25%
1500ng/ml TO-11A	5545667	0.34%	4908691	0.44%	3190358	0.51%	7206275	0.06%	4163357	0.06%	3013354	0.87%
1500ng/ml TO-11A	5523160	0.07%	4897059	0.20%	3181168	0.22%	7222715	0.28%	4177519	0.41%	3110373	2.32%
1500ng/ml TO-11A	5511869	0.27%	4855903	0.64%	3151083	0.73%	7177715	0.34%	4141107	0.47%	2995490	1.46%
5000ng/ml TO-11A	19526448	0.55%	18553441	0.55%	11996880	0.69%	26379068	0.93%	15727653	1.10%	11069374	1.36%
5000ng/ml TO-11A	19643023	0.04%	18591208	0.35%	12054706	0.21%	26529991	0.37%	15876497	0.16%	11117624	0.93%
5000ng/ml TO-11A	19734320	0.51%	18822519	0.89%	12188940	0.90%	26974841	1.30%	16102054	1.26%	11477886	2.28%
10000ng/ml TO-11 S	35490040	0.43%	34502996	0.46%	22342247	0.47%	48892935	0.46%	29145211	1.20%	20767473	1.10%
10000ng/ml TO-11 S	35675923	0.09%	34690610	0.08%	22468352	0.09%	49151608	0.07%	29280568	0.74%	20997209	0.01%
10000ng/ml TO-11 S	35769102	0.35%	34792517	0.38%	22535528	0.39%	49312981	0.39%	30073334	1.94%	21232541	1.11%

AVERAGE RESPONSE FACTOR

5/10/10

5/13/10

	Form-Aldehyde	Acet-Aldehyde	Propion-Aldehyde	Croton-Aldehyde	Butyr-Aldehyde	Benz-Aldehyde
50ng/ml TO-11A S	463736	321774	204459	186439	184656	130872
100ng/ml TO-11A S	933919	659340	450656	395274	386669	249202
500ng/ml TO-11A S	4471205	3230654	2379771	1987565	2006169	1270321
1500ng/ml TO-11A	13933223	10197994	7304738	6215351	5918406	3985638
5000ng/ml TO-11A	50199622	37023856	28530094	22602222	22473644	15579718
10000ng/ml TO-11	91121855	67177418	52409983	41354779	41633494	28172015

AVERAGE RESPONSE FACTOR

HC 5/11/10

5/13/10

	Isovaler-Aldehyde	Valer-Aldehyde	o-Tolu-Aldehyde	m,p-Tolu-Aldehyde	Hex-Aldehyde	2,5-Dimethl benz-Aldehyde
50ng/ml TO-11A S	162065	157447	82623	220624	139476	80114
100ng/ml TO-11A S	346672	327098	186650	424840	271084	174509
500ng/ml TO-11A S	1701094	1626136	958612	2205706	1423860	913071
1500ng/ml TO-11A	5526899	4887218	3174203	7202235	4160661	3039739
5000ng/ml TO-11A	19634597	18655723	12080175	26627967	15902068	11221628
10000ng/ml TO-11	35645022	34662041	22448709	49119175	29499704	20999074

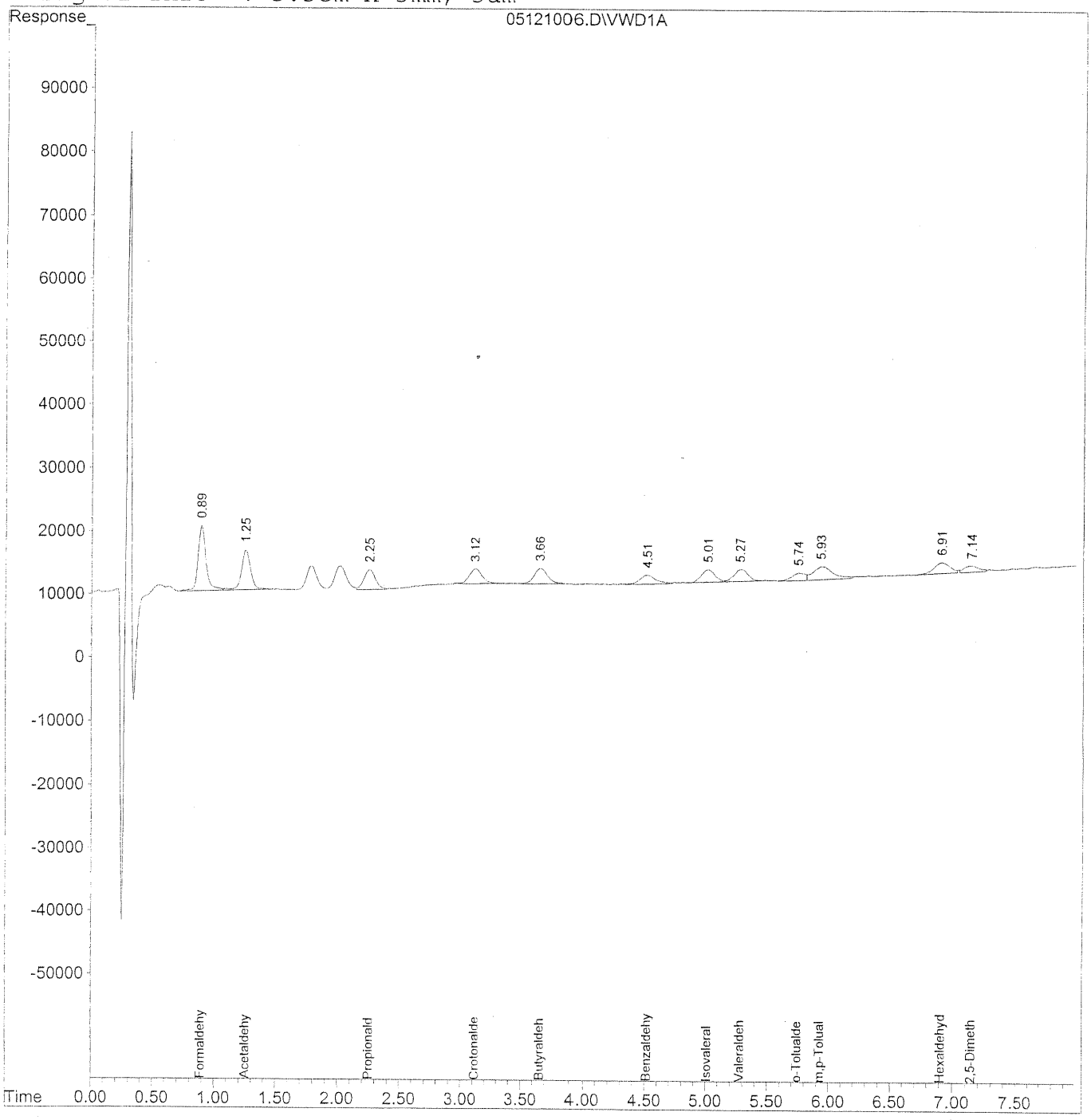
TO-11A CALIBRATION STANDARDS LIST						
50ng/ml TO-11A S21-03091012						
100ng/ml TO-11A S21-03091009						
500ng/ml TO-11A S21-03091008						
1500ng/ml TO-11A S21-04211003						
5000ng/ml TO-11A S21-03091001						
10000ng/ml TO-11 S21-03091007						

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:45 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:45 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

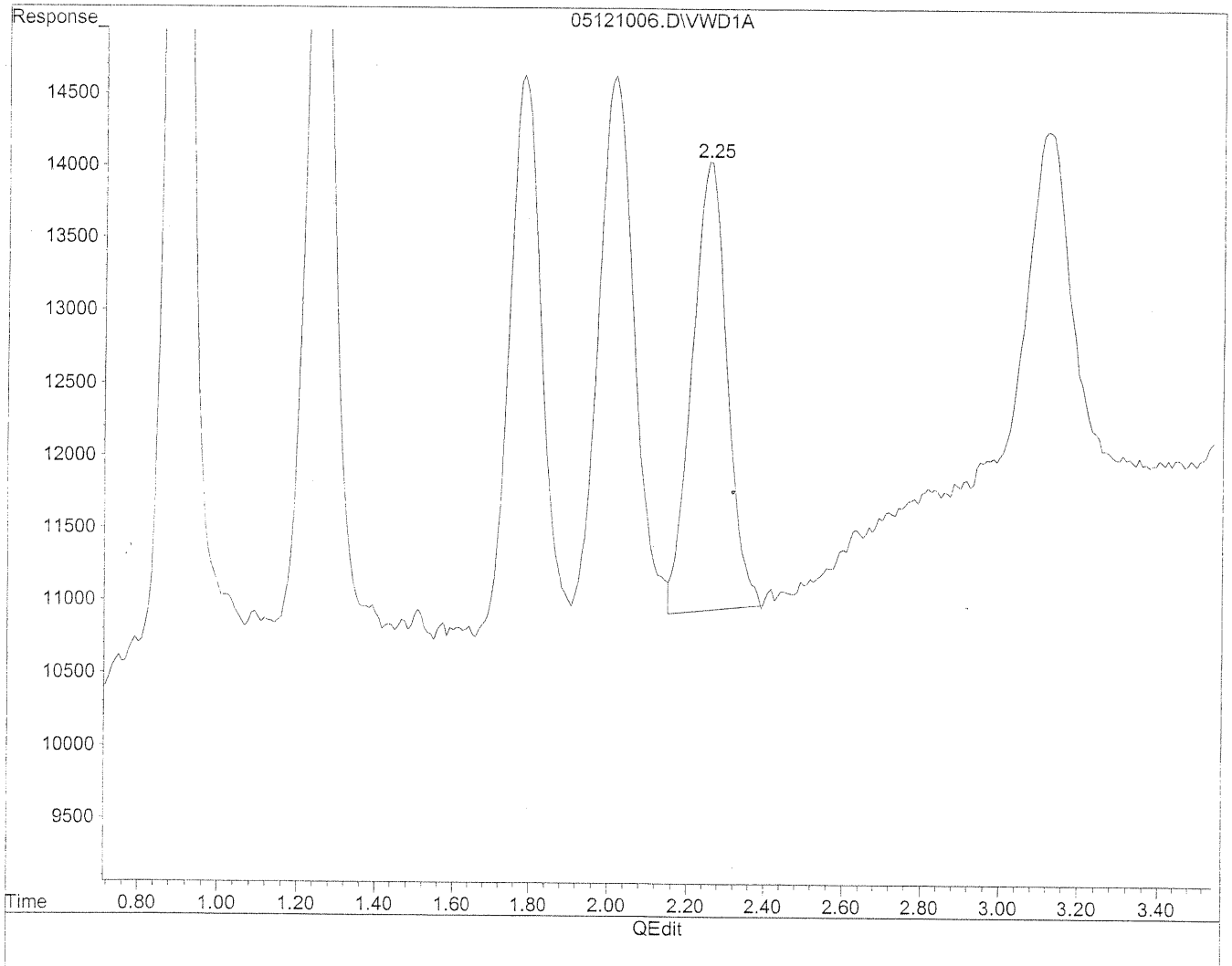
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	469519	52.400	ng/ml
2)	Acetaldehyde	1.25	331942	51.562	ng/ml
3)	Propionaldehyde	2.25	206402	42.501	ng/mlm
4)	Crotonaldehyde	3.12	182213	46.328	ng/mlm
5)	Butyraldehyde	3.66	188187	47.461	ng/mlm
6)	Benzaldehyde	4.51	132575	50.443	ng/mlm
7)	Isovaleraldehyde	5.01	155641	43.571	ng/ml
8)	Valeraldehyde	5.28	150293	50.052	ng/ml
9)	o-Tolualdehyde	5.74	87129	32.945	ng/mlm
10)	m,p-Tolualdehyde	5.93	234231	111.551	ng/mlm
11)	Hexaldehyde	6.91	154688	49.469	ng/mlm
12)	2,5-Dimethylbenzaldehyde	7.14	83574	46.830	ng/mlm

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:31 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:01:33 2010
Response via : Multiple Level Calibration



(3) Propionaldehyde

2.26min 40.354ng/ml

response 195976

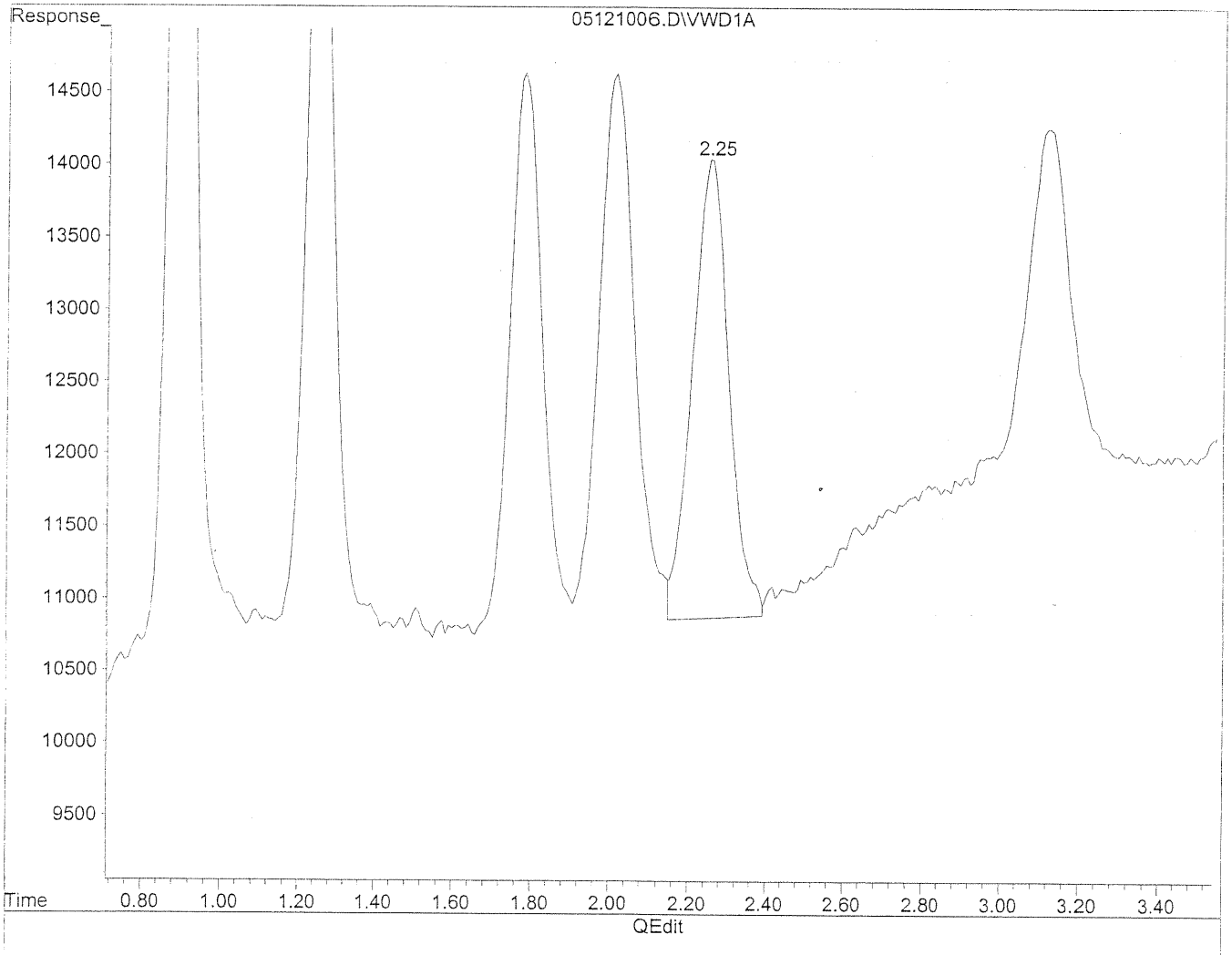
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 11:07:05 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:31 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:01:33 2010
Response via : Multiple Level Calibration



(3) Propionaldehyde

2.25min 42.501ng/ml m

response 206402

HL 5/12/10

MD 5/13/10

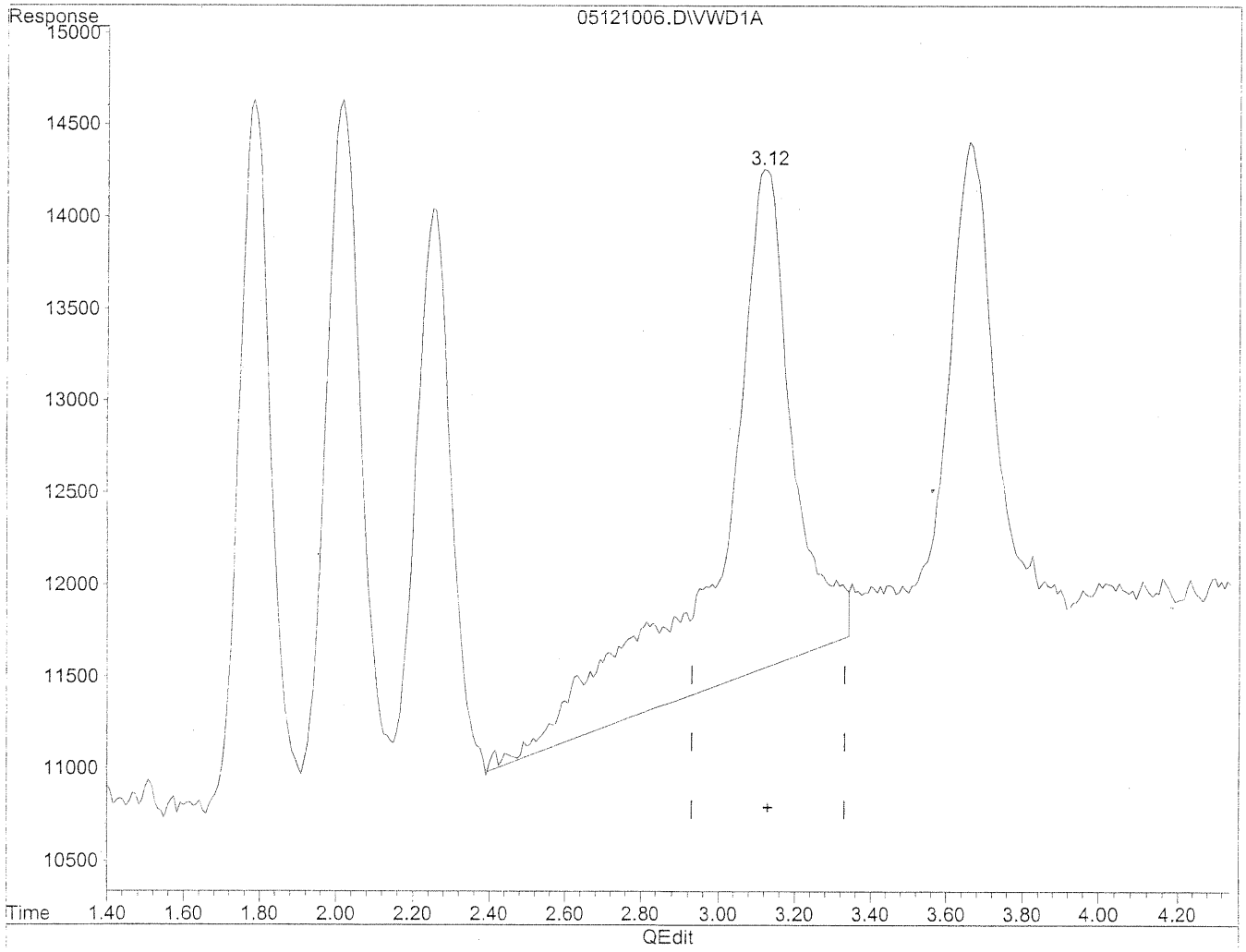
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 11:07:15 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:30 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(4) Crotonaldehyde

3.12min 90.205ng/ml

response 354784

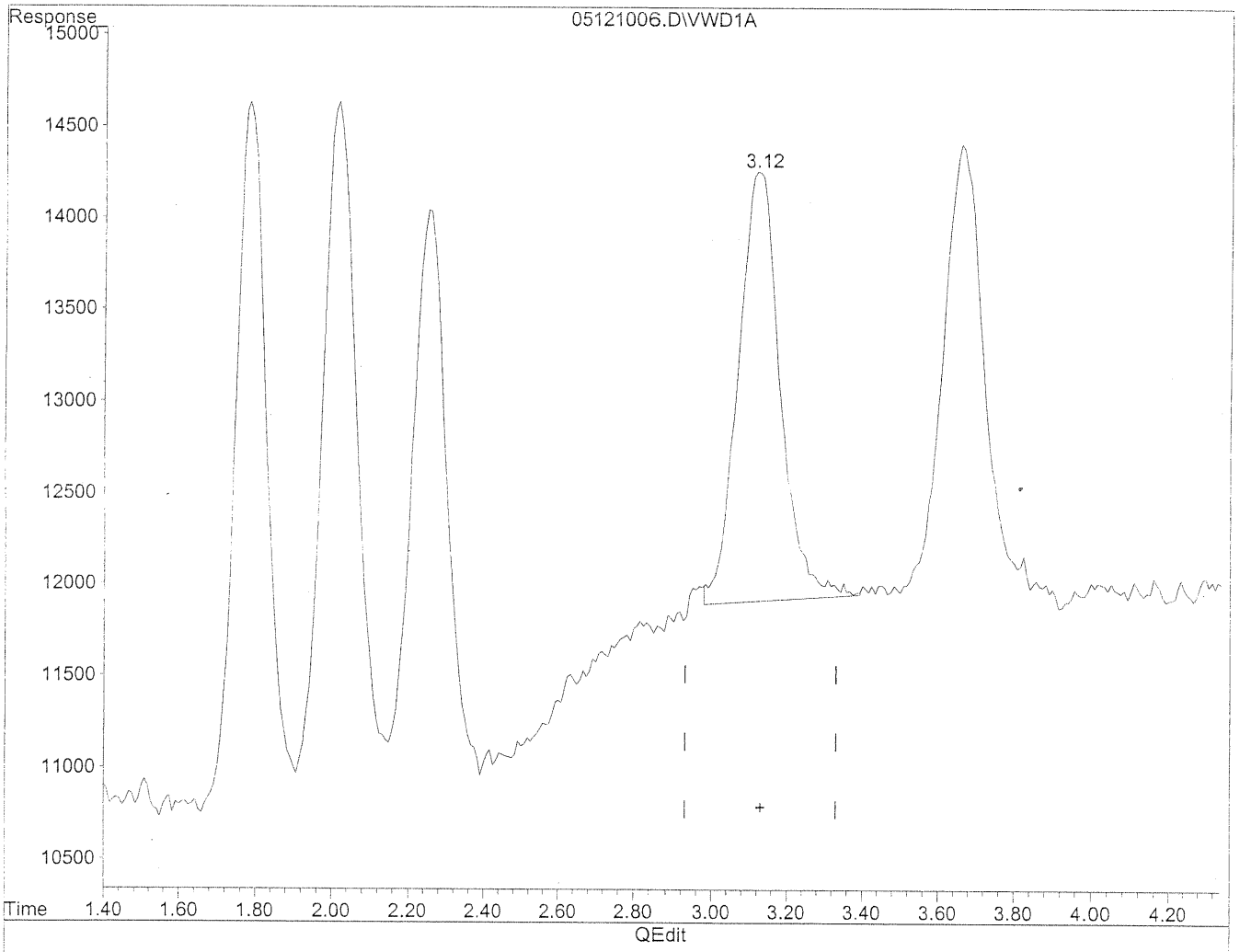
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 10:30:55 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:30 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(4) Crotonaldehyde

3.12min 46.328ng/ml m

response 182213

HC 5/10/10

TC MB 5/13/10

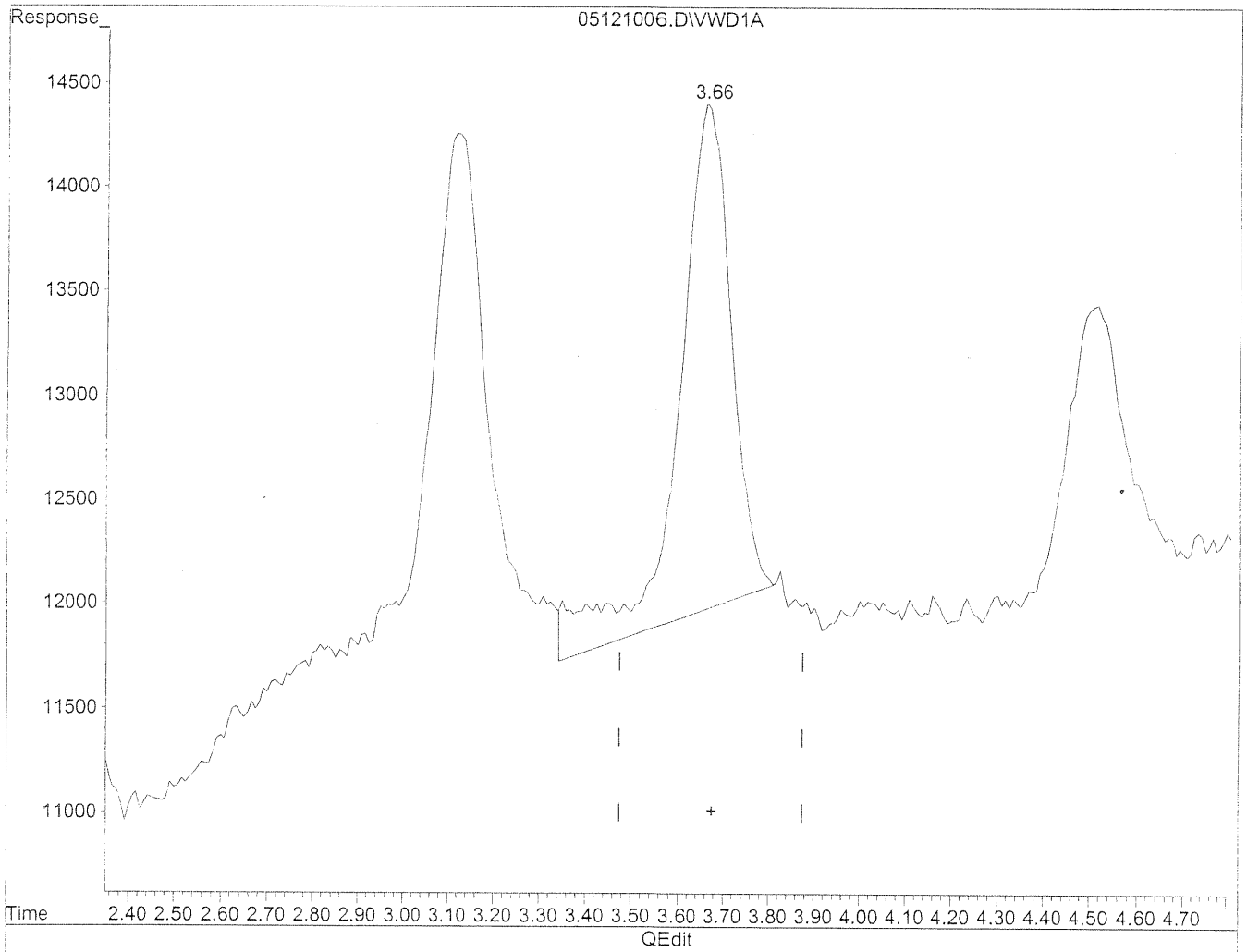
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 10:31:05 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:30 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.66min 49.877ng/ml

response 197767

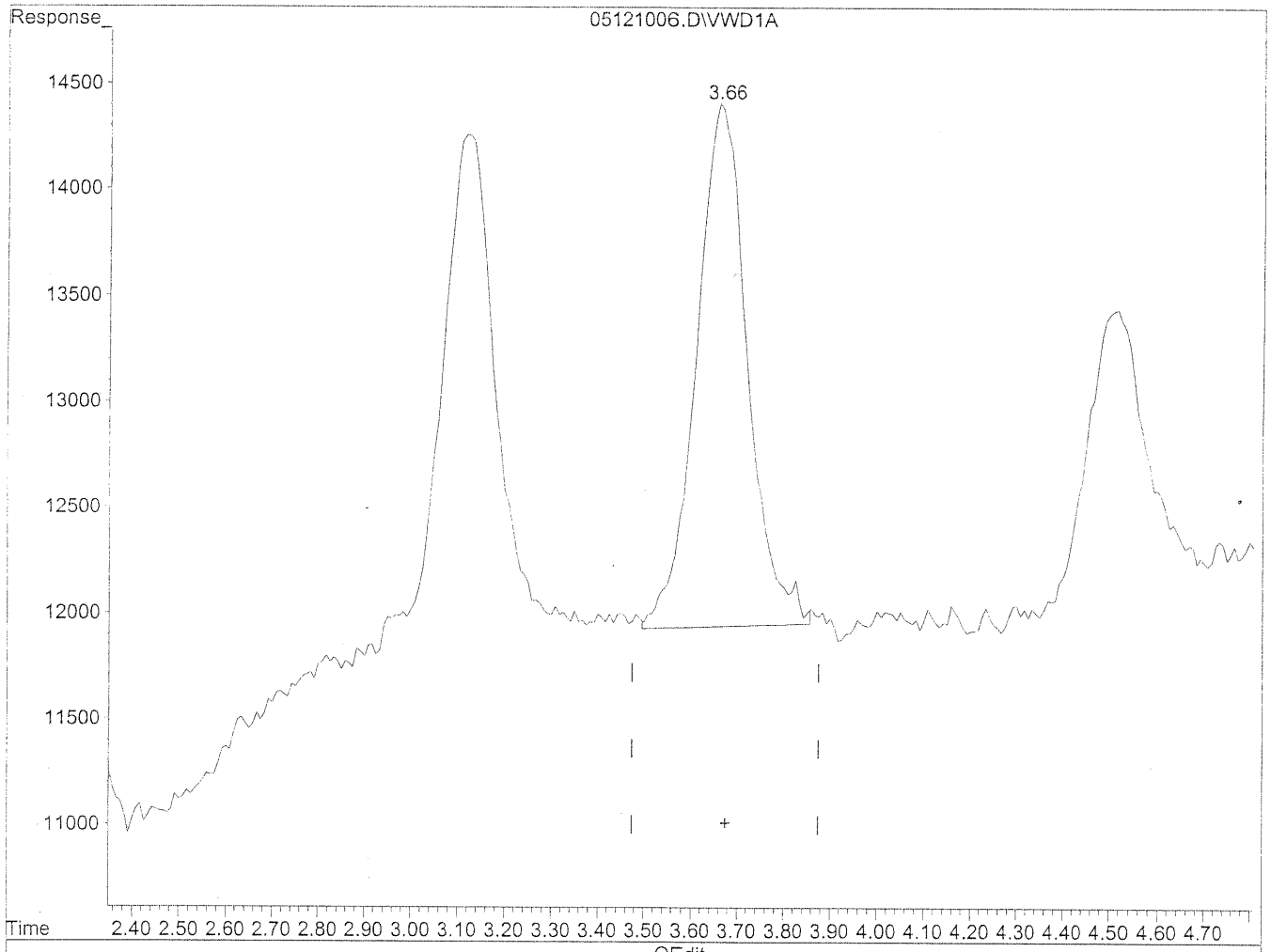
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 10:31:08 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:30 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.66min 47.461ng/ml m

response 188187

5/13/10

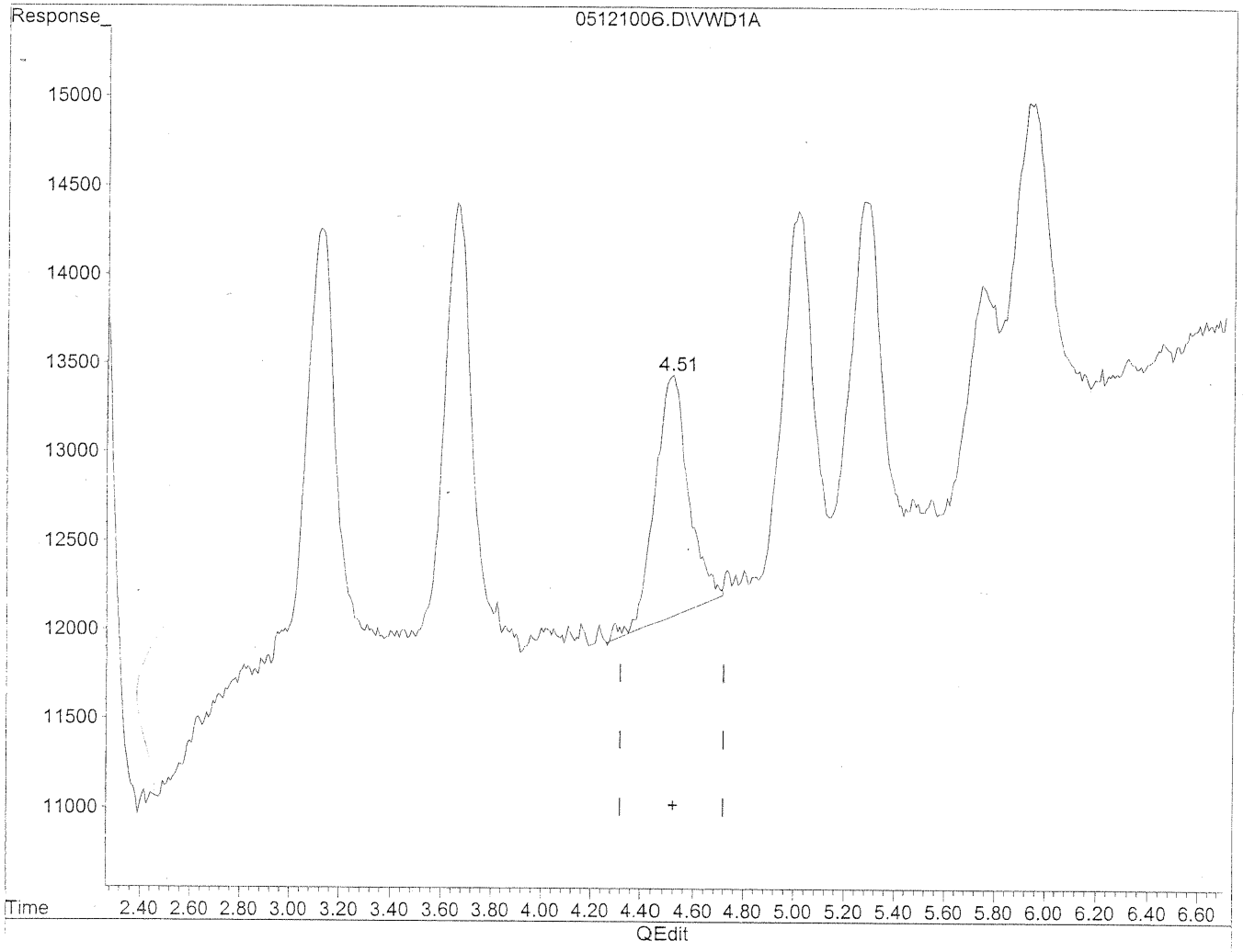
5/13/10

(+) = Expected Retention Time
05121006.D TO110510.M Thu May 13 10:31:12 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:31 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:01:33 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.52min 45.807ng/ml

response 120389

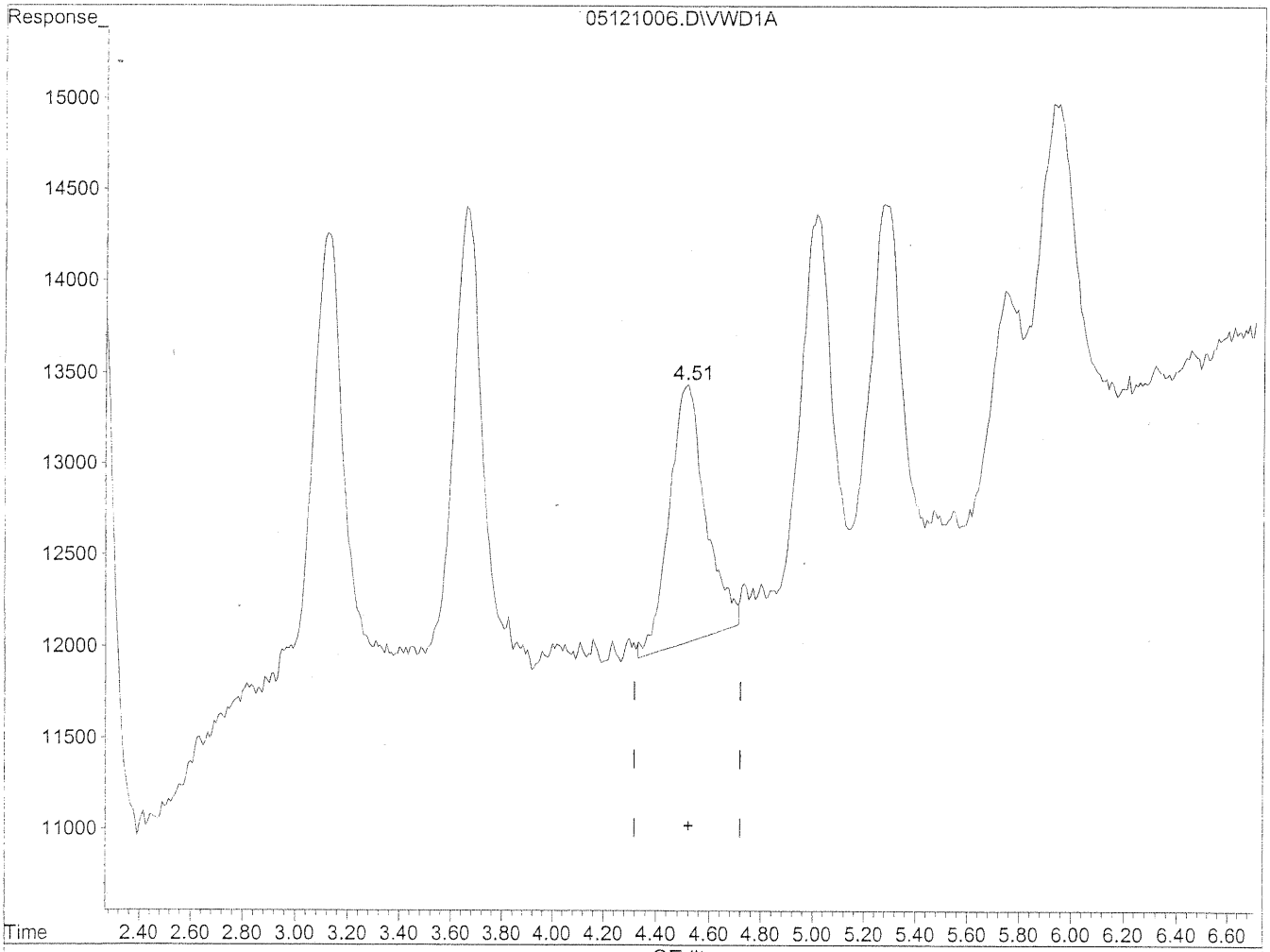
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 11:07:31 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:31 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:01:33 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.51min 50.443ng/ml m

response 132575

5/13/10

5/13/10

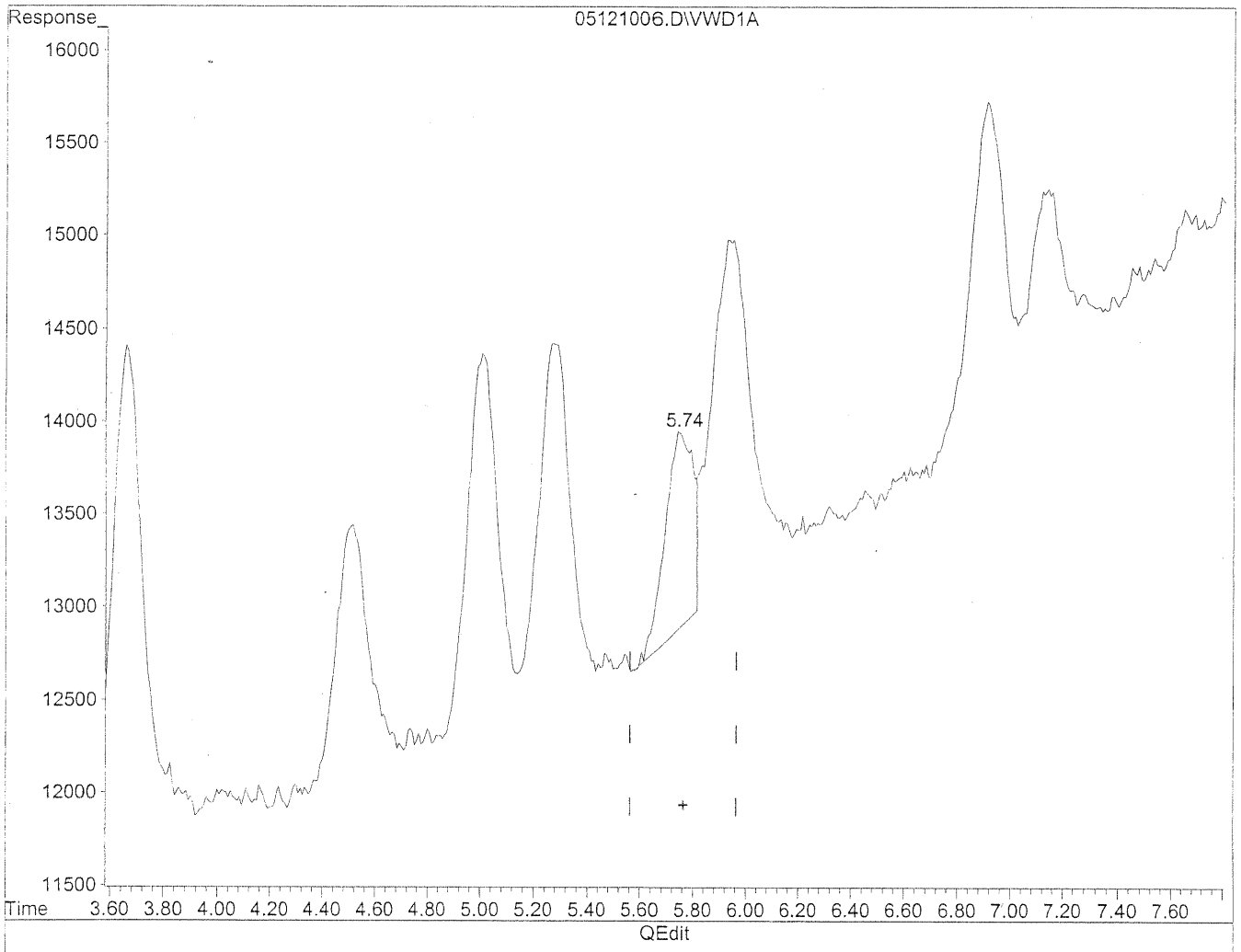
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 11:07:38 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:31 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:01:33 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.75min 28.710ng/ml

response 75929

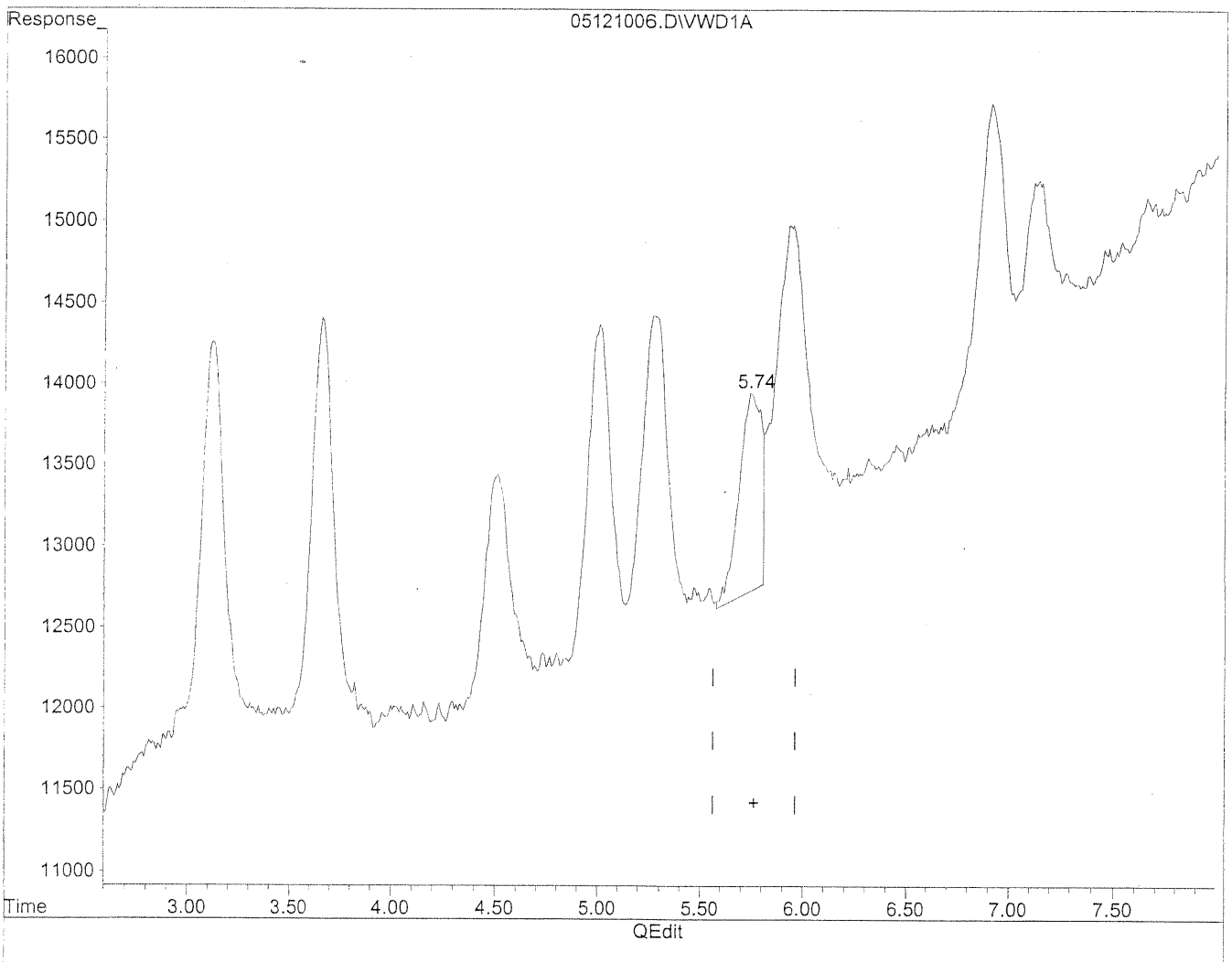
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 11:07:52 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:31 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:01:33 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.74min 32.945ng/ml m

response 87129

5/19/10

5/13/10

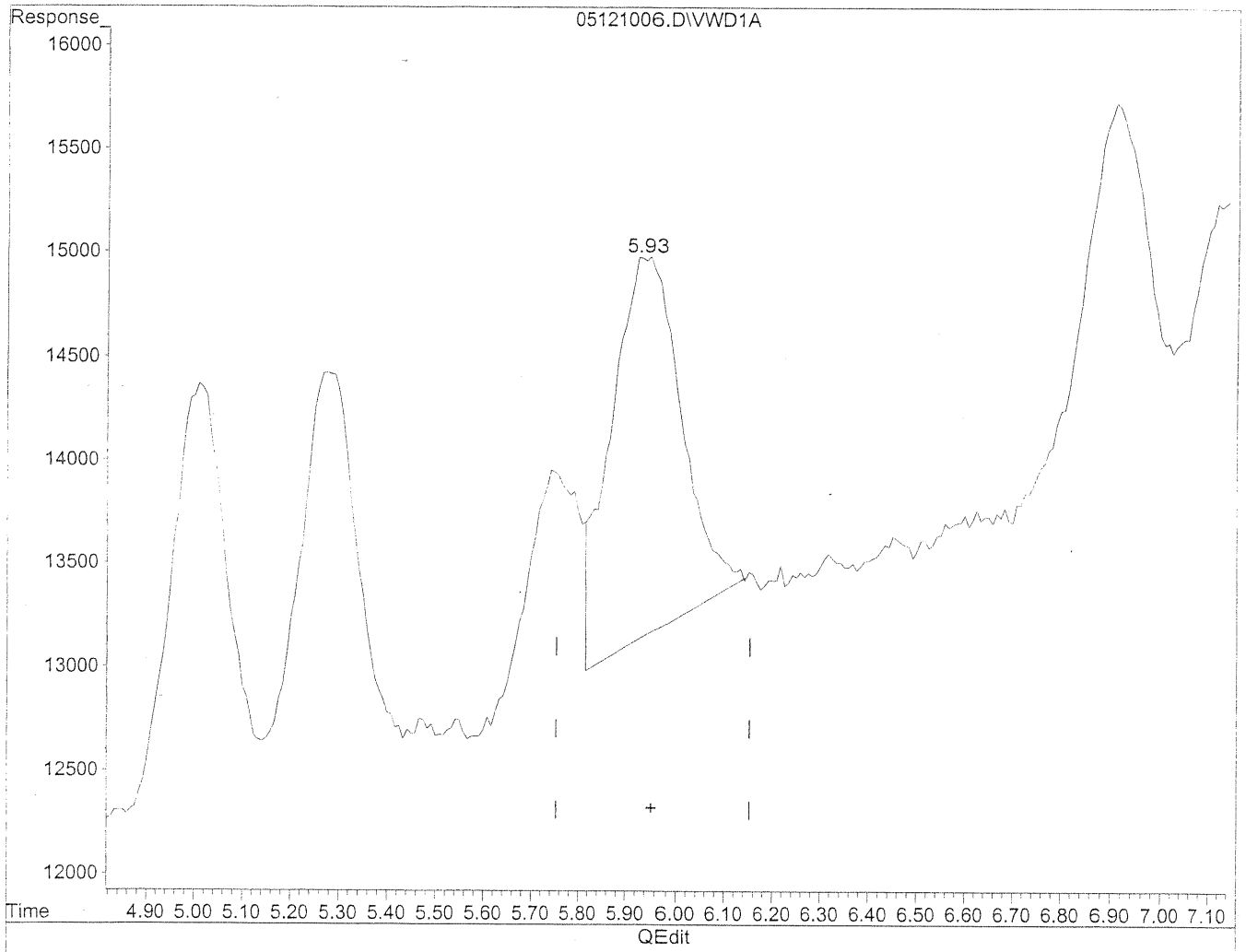
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 11:08:42 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:30 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

5.94min 86.715ng/ml

response 182081

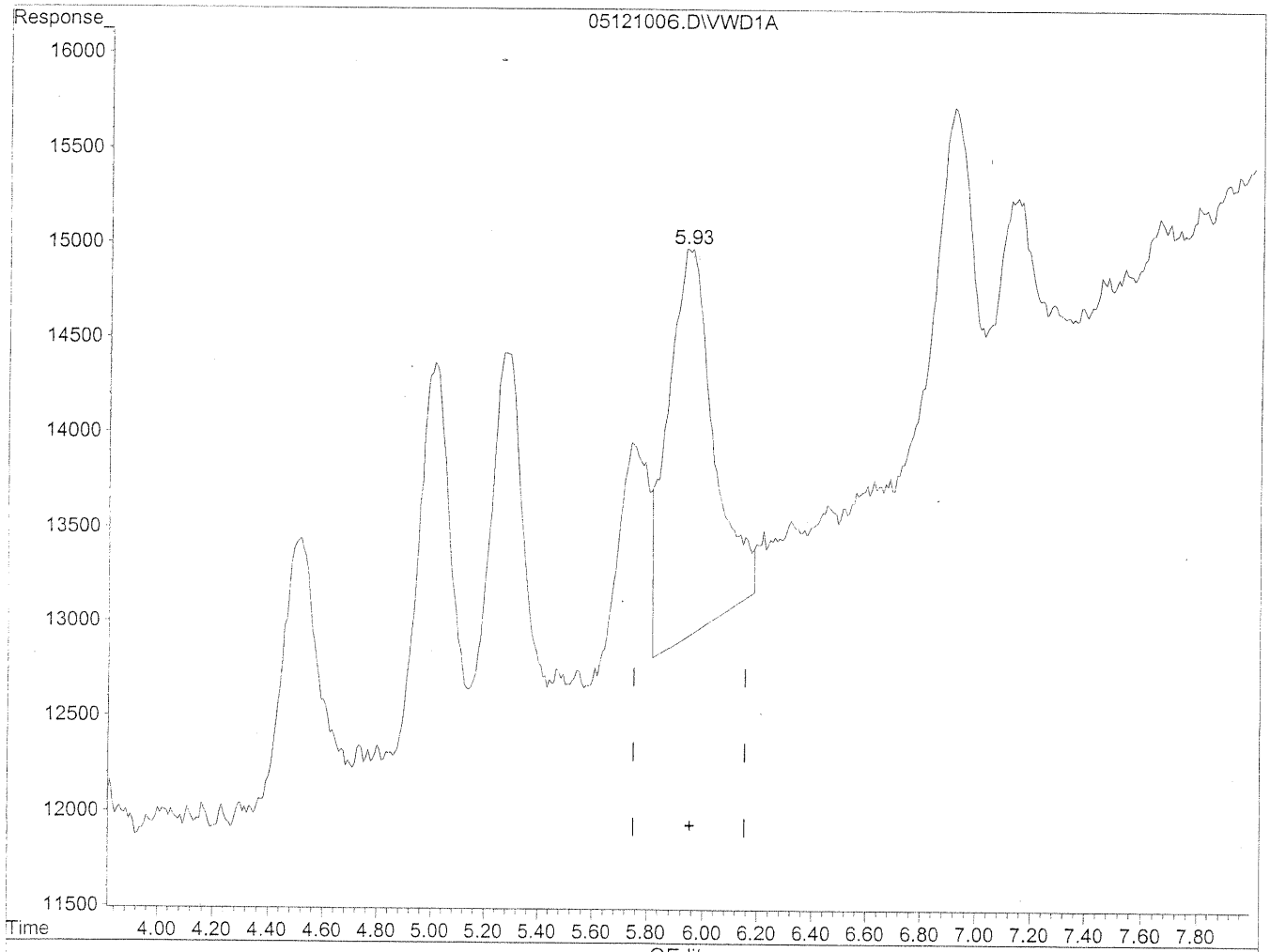
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 10:31:25 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:31 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:01:33 2010
Response via : Multiple Level Calibration



QEdit

(10) m,p-Tolualdehyde

5.93min 111.551ng/ml m

response 234231

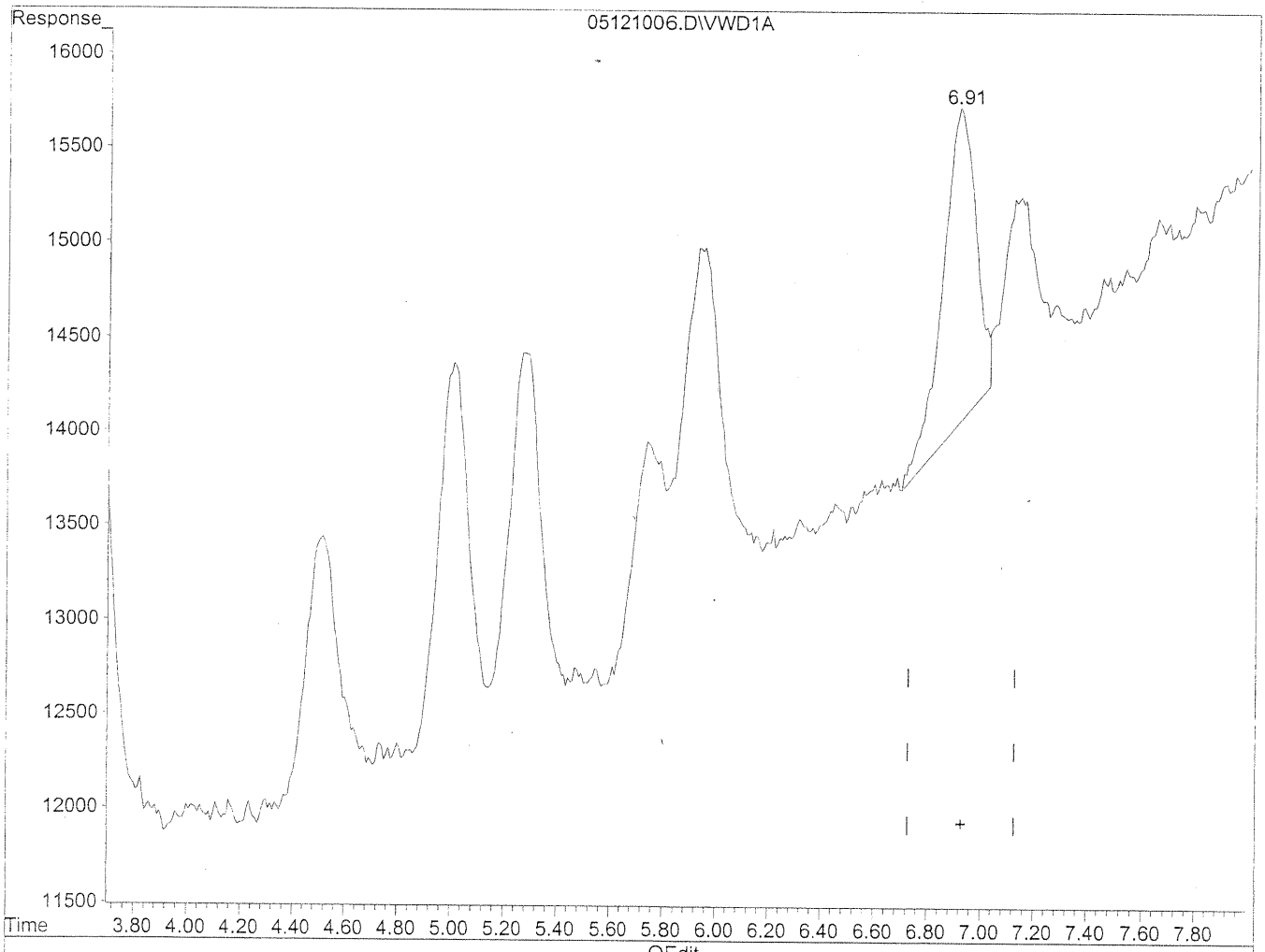
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 11:09:09 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:09 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:01:33 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.91min 45.687ng/ml

response 142864

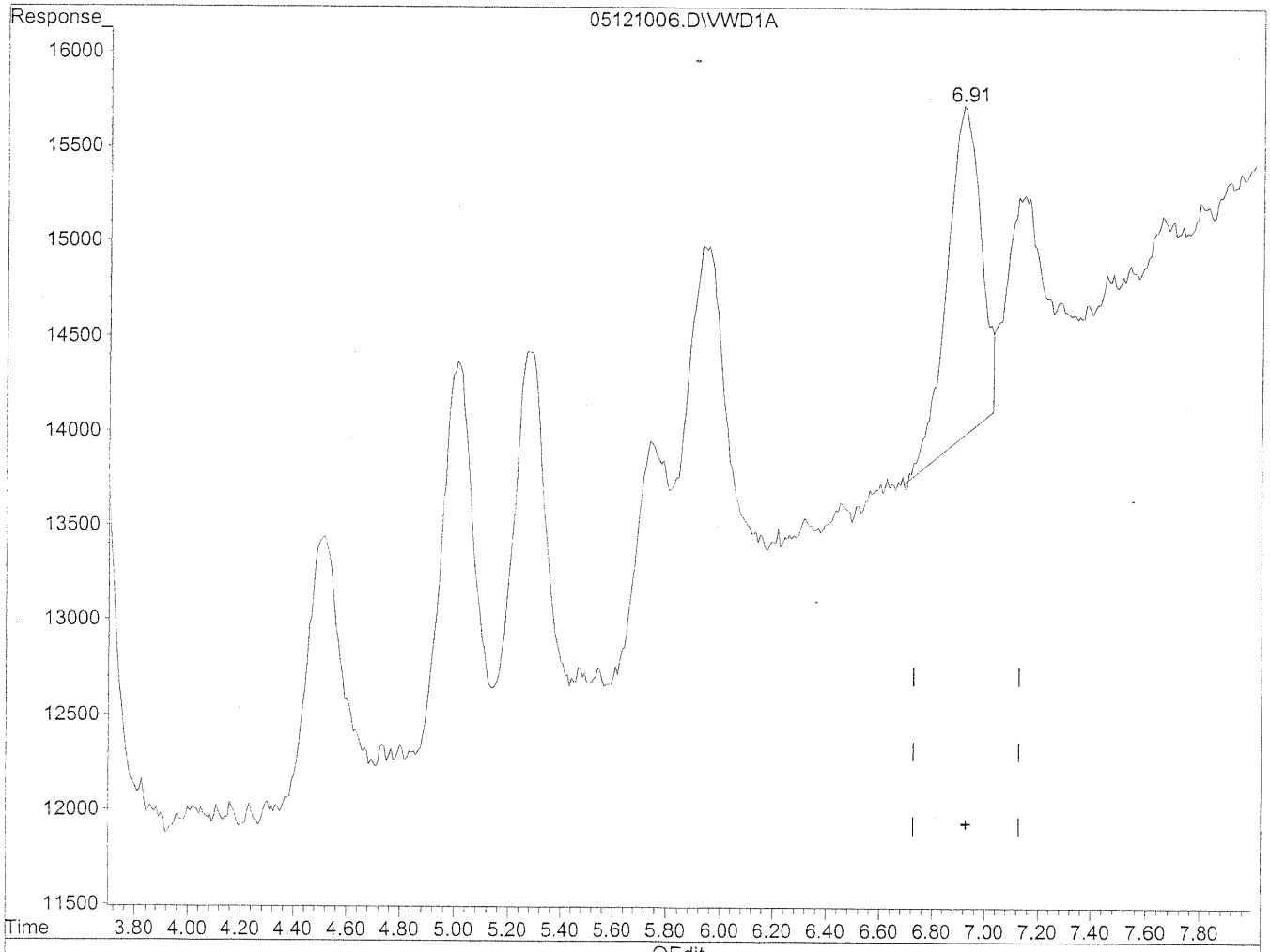
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 11:10:25 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:09 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:01:33 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.91min 49.469ng/ml m

response 154688

HC 5/19/10

PC 5/13/10

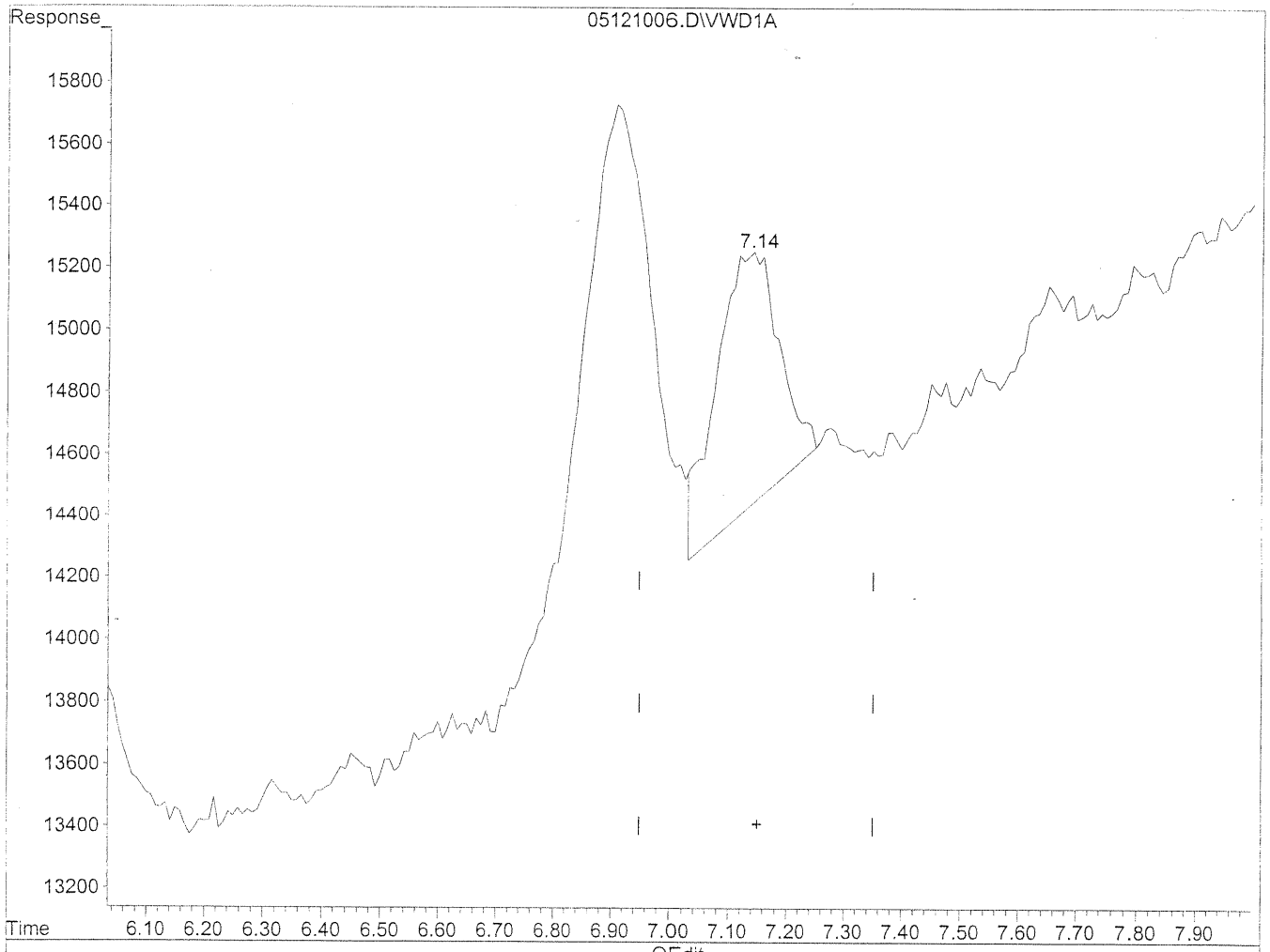
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 11:10:37 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:30 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.14min 34.808ng/ml

response 62119

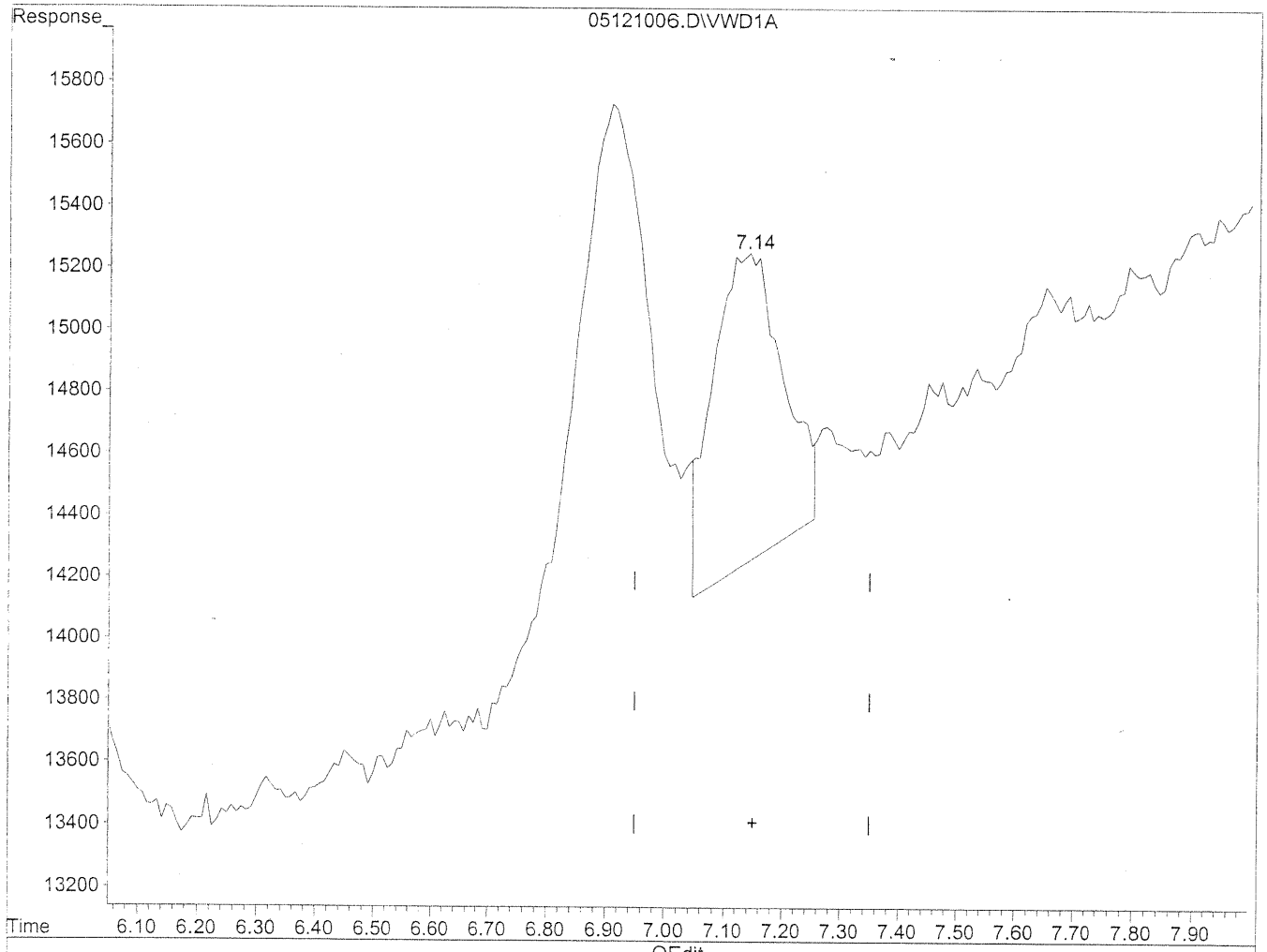
(+) = Expected Retention Time

05121006.D TO110510.M Thu May 13 10:31:37 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121006.D Vial: 126
Acq On : 12-May-2010, 13:08 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:45 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:47:19 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.14min 46.830ng/ml m

response 83574

HC 5/19/10

BU 5/13/10

(+) = Expected Retention Time

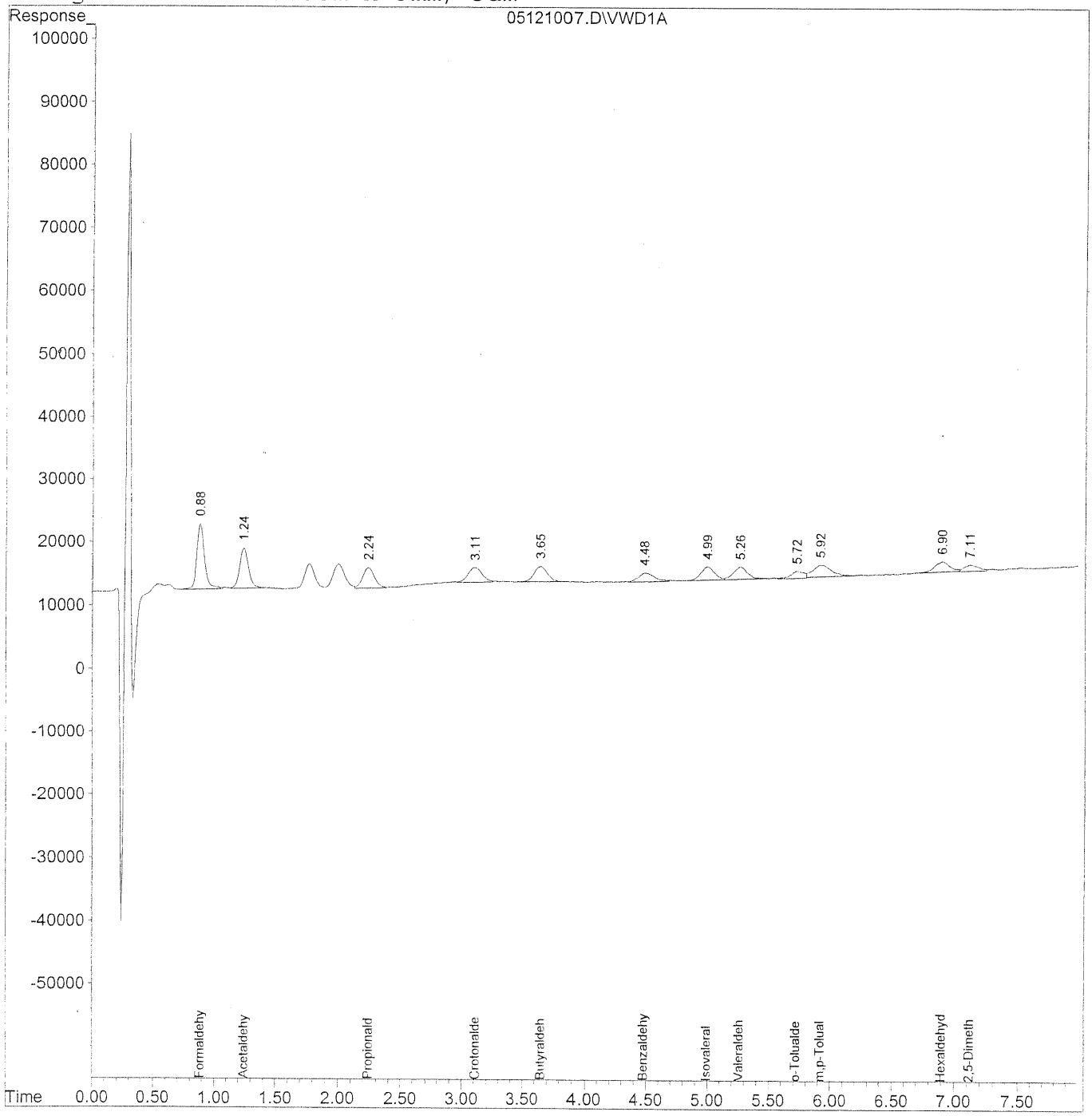
05121006.D TO110510.M Thu May 13 11:48:15 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:45 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:45 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

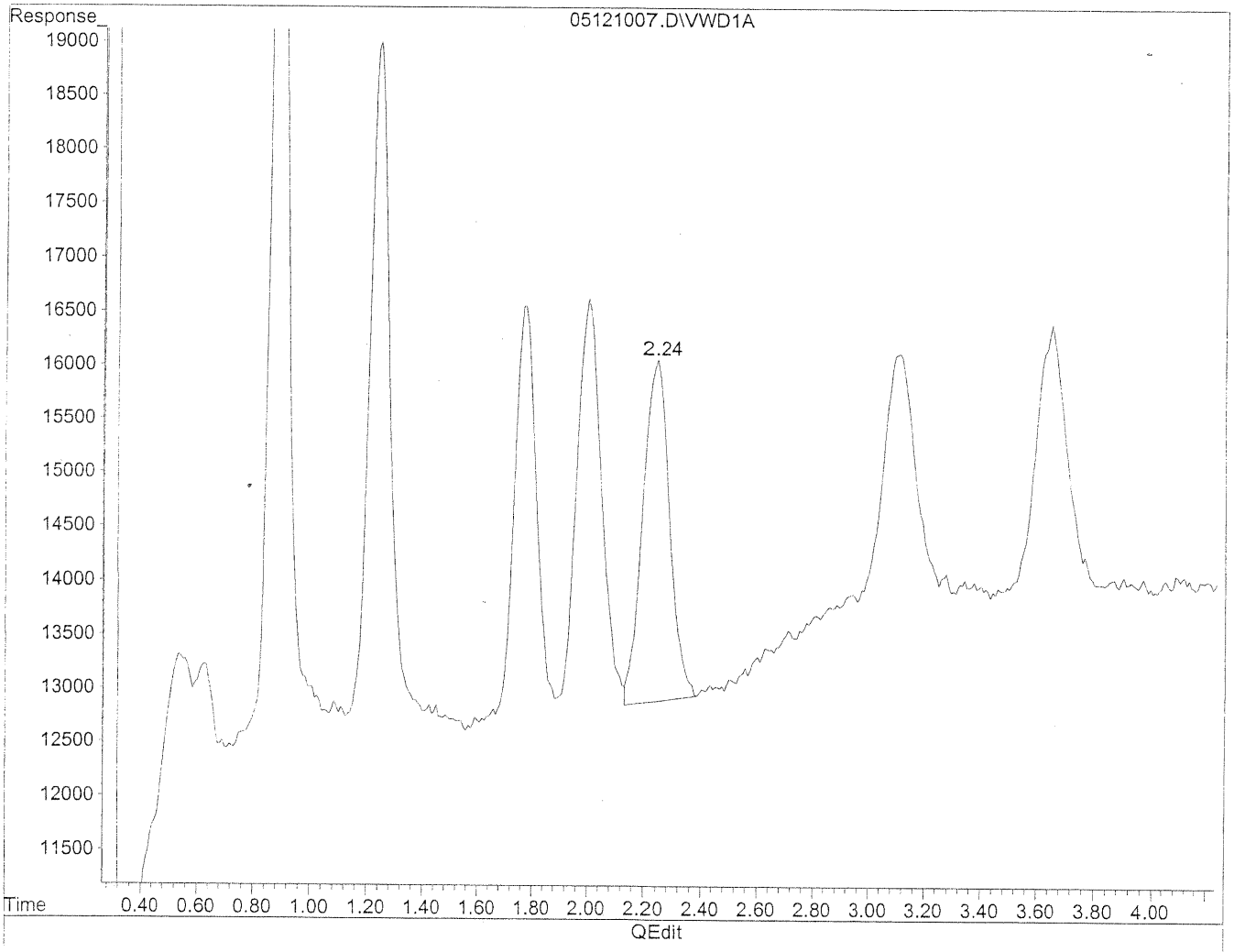
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	Formaldehyde	0.89	455638	50.107 ng/ml
2)	Acetaldehyde	1.24	314805	48.004 ng/ml
3)	Propionaldehyde	2.24	210977	43.960 ng/mlm
4)	Crotonaldehyde	3.11	184135	46.110 ng/mlm
5)	Butyraldehyde	3.65	181534	45.291 ng/ml
6)	Benzaldehyde	4.48	129097	48.691 ng/mlm
7)	Isovaleraldehyde	5.00	163123	46.033 ng/ml
8)	Valeraldehyde	5.27	159085	52.166 ng/ml
9)	o-Tolualdehyde	5.72	79874	31.986 ng/mlm
10)	m,p-Tolualdehyde	5.92	197795	93.234 ng/mlm
11)	Hexaldehyde	6.90	135007	42.839 ng/mlm
12)	2,5-Dimethylbenzaldehyde	7.11	79484	45.044 ng/mlm

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:10:54 2010
Response via : Multiple Level Calibration



(3) Propionaldehyde

2.24min 41.459ng/ml

response 198974

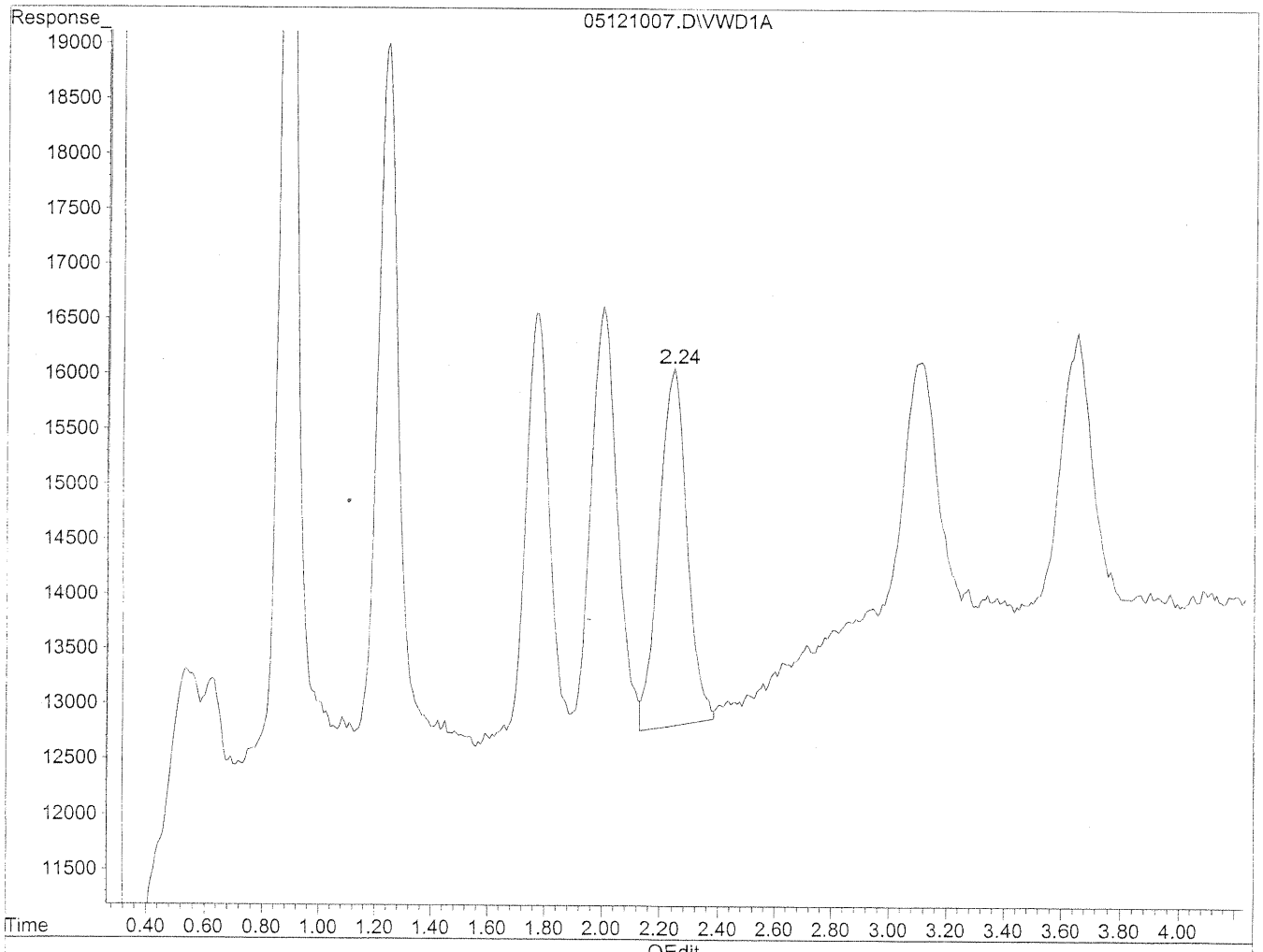
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 11:11:18 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:10:54 2010
Response via : Multiple Level Calibration



QEdit

(3) Propionaldehyde

2.24min 43.960ng/ml m

response 210977

HC
5/19/10

5/13/10

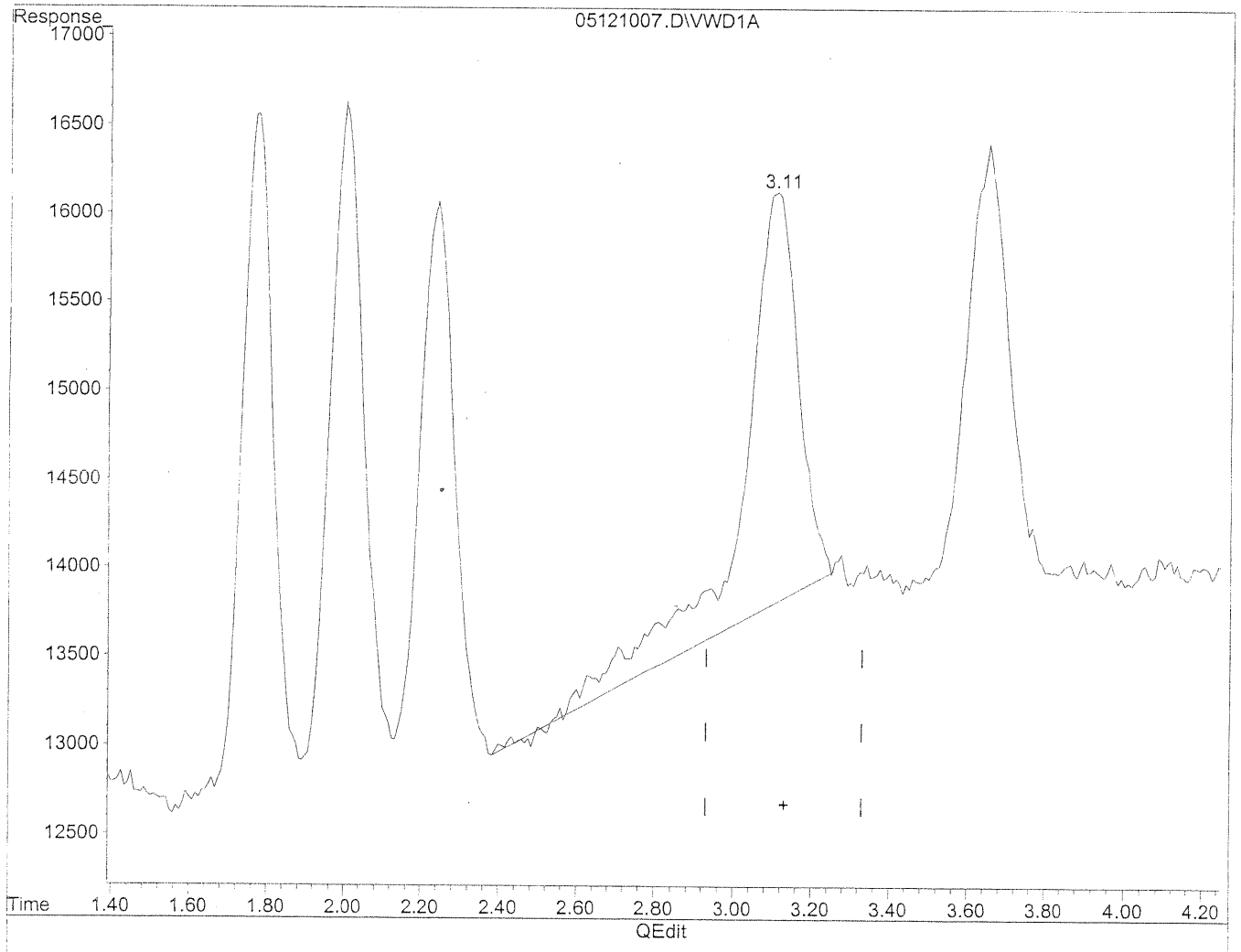
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 11:11:25 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(4) Crotonaldehyde

3.11min 57.096ng/ml

response 228003

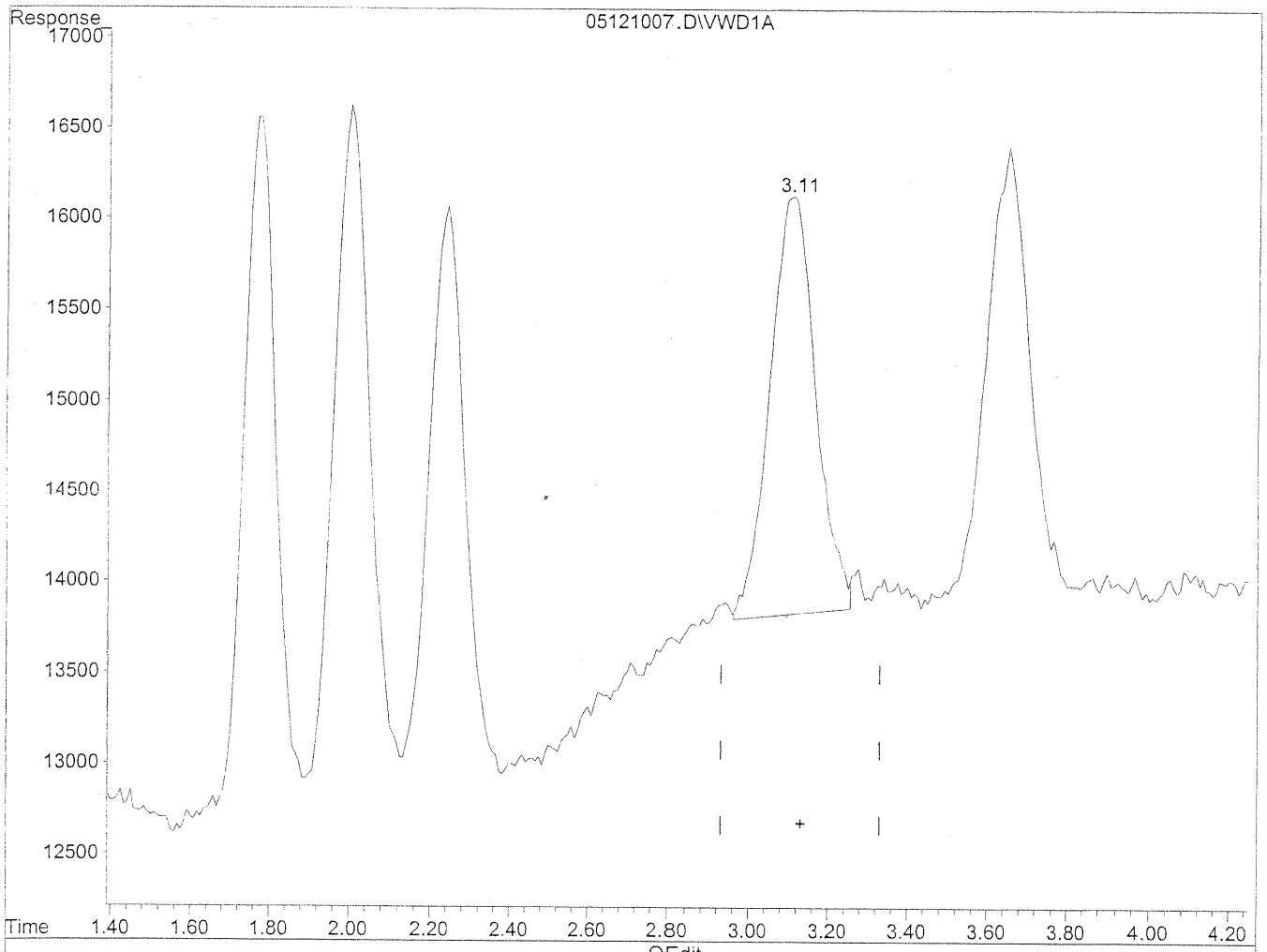
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 10:32:17 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(4) Crotonaldehyde

3.11min 46.110ng/ml m

response 184135

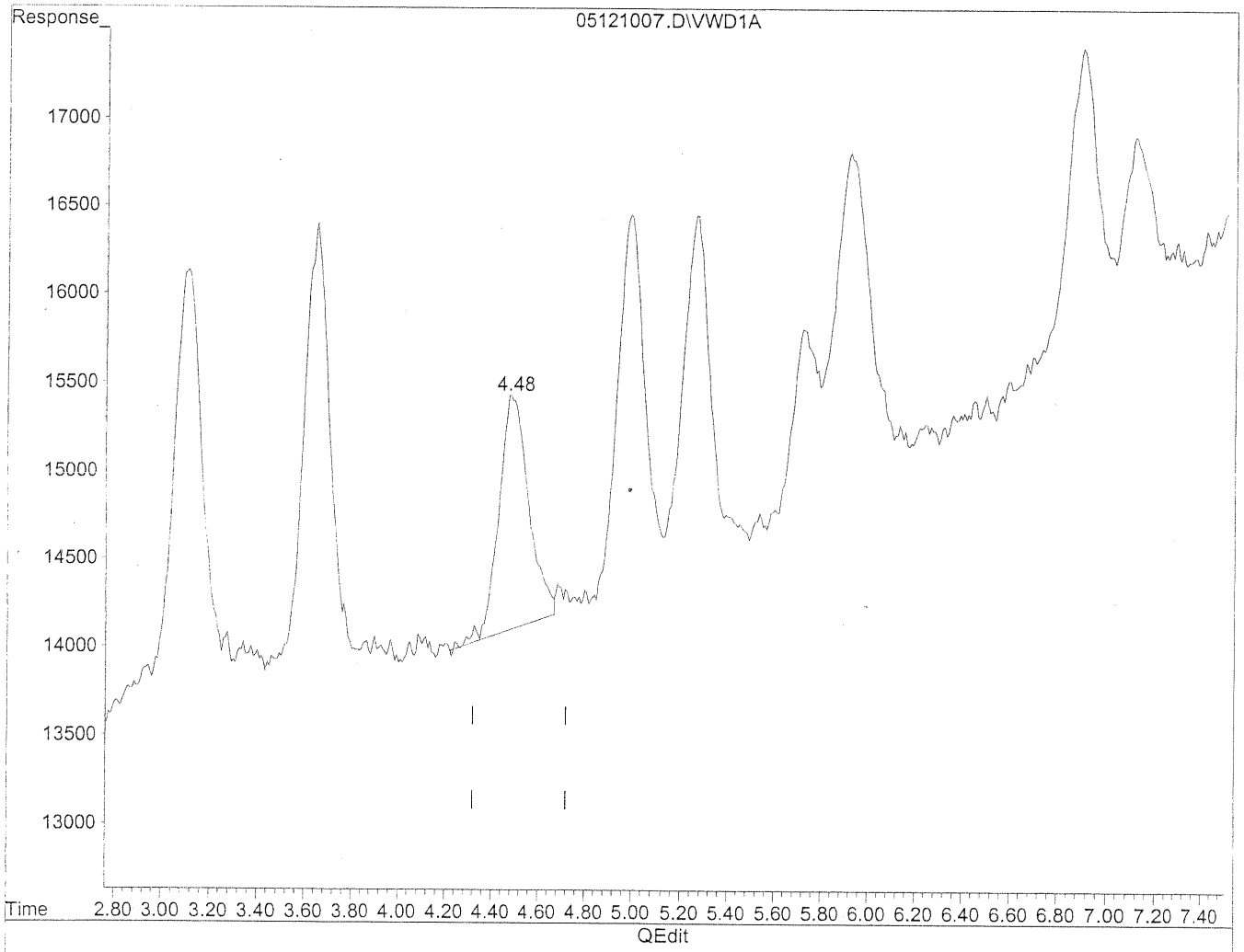
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 10:32:22 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:10:54 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.48min 44.658ng/ml

response 118403

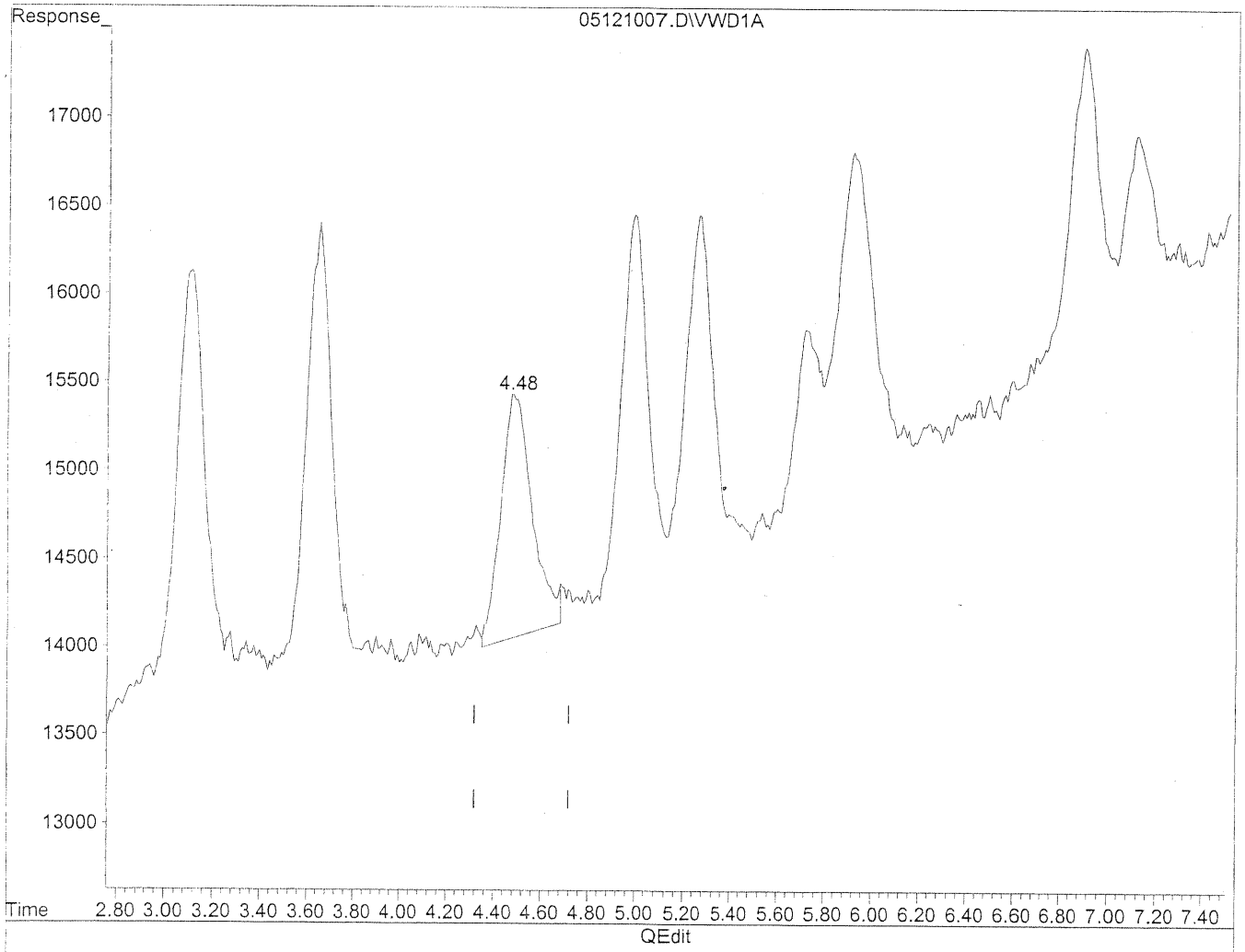
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 11:11:48 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:10:54 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.48min 48.691ng/ml m

response 129097

5/19/10 PC MD 5/20/10

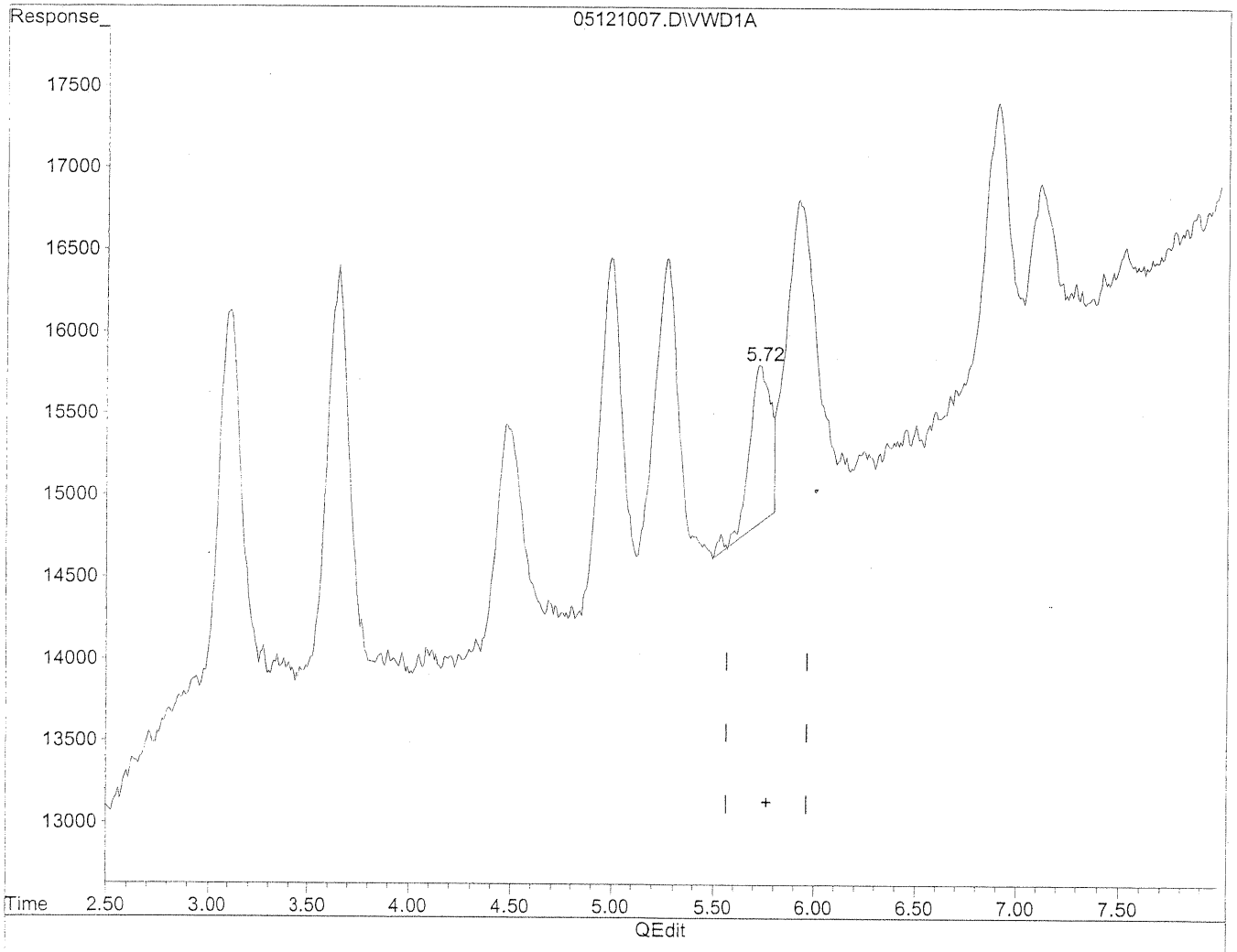
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 11:11:55 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:10:54 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.73min 27.799ng/ml

response 69418

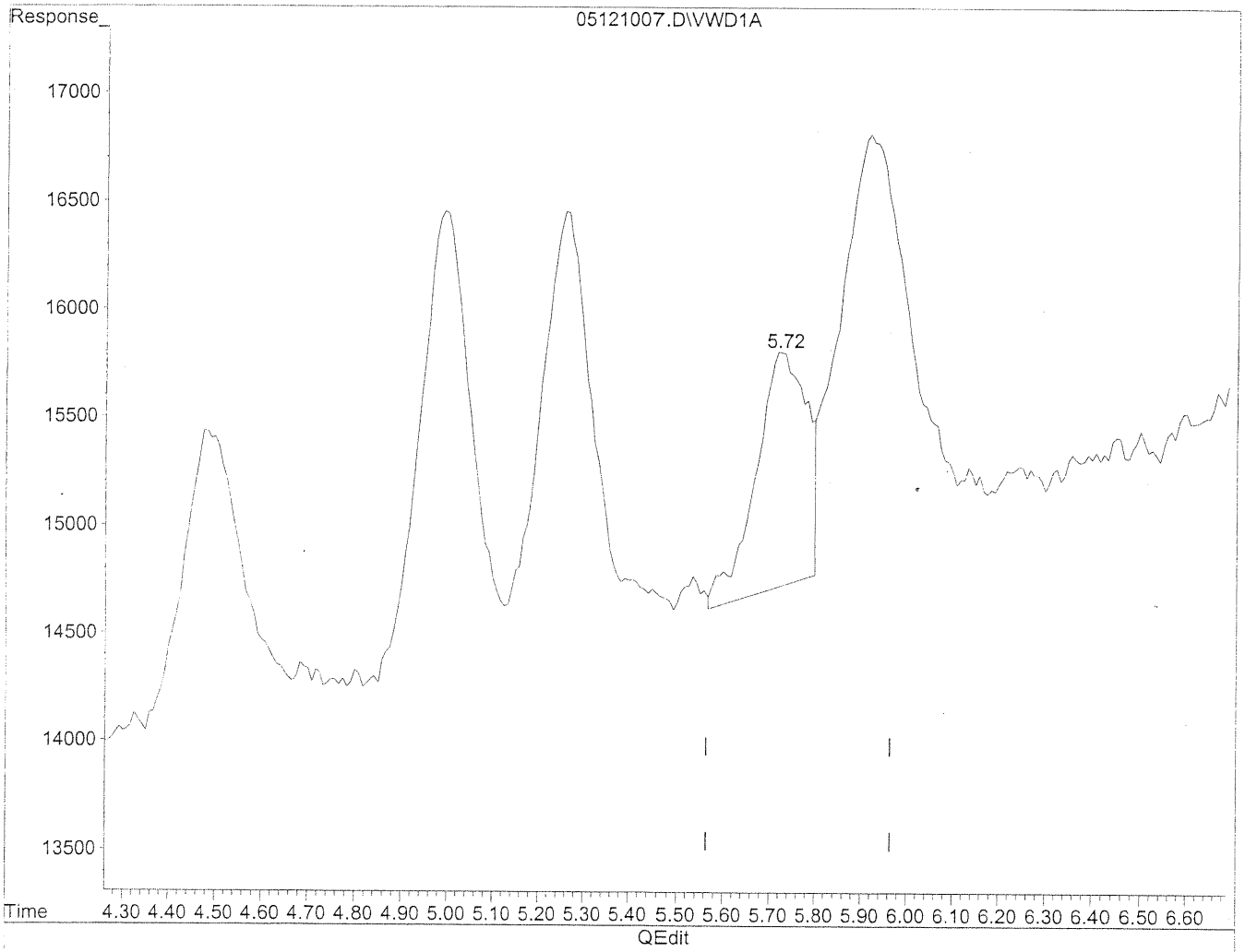
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 11:12:05 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:10:54 2010
Response via : Multiple Level Calibration



QEdit

(9) o-Tolualdehyde

5.72min 31.986ng/ml m

response 79874

5/19/10

5/13/10

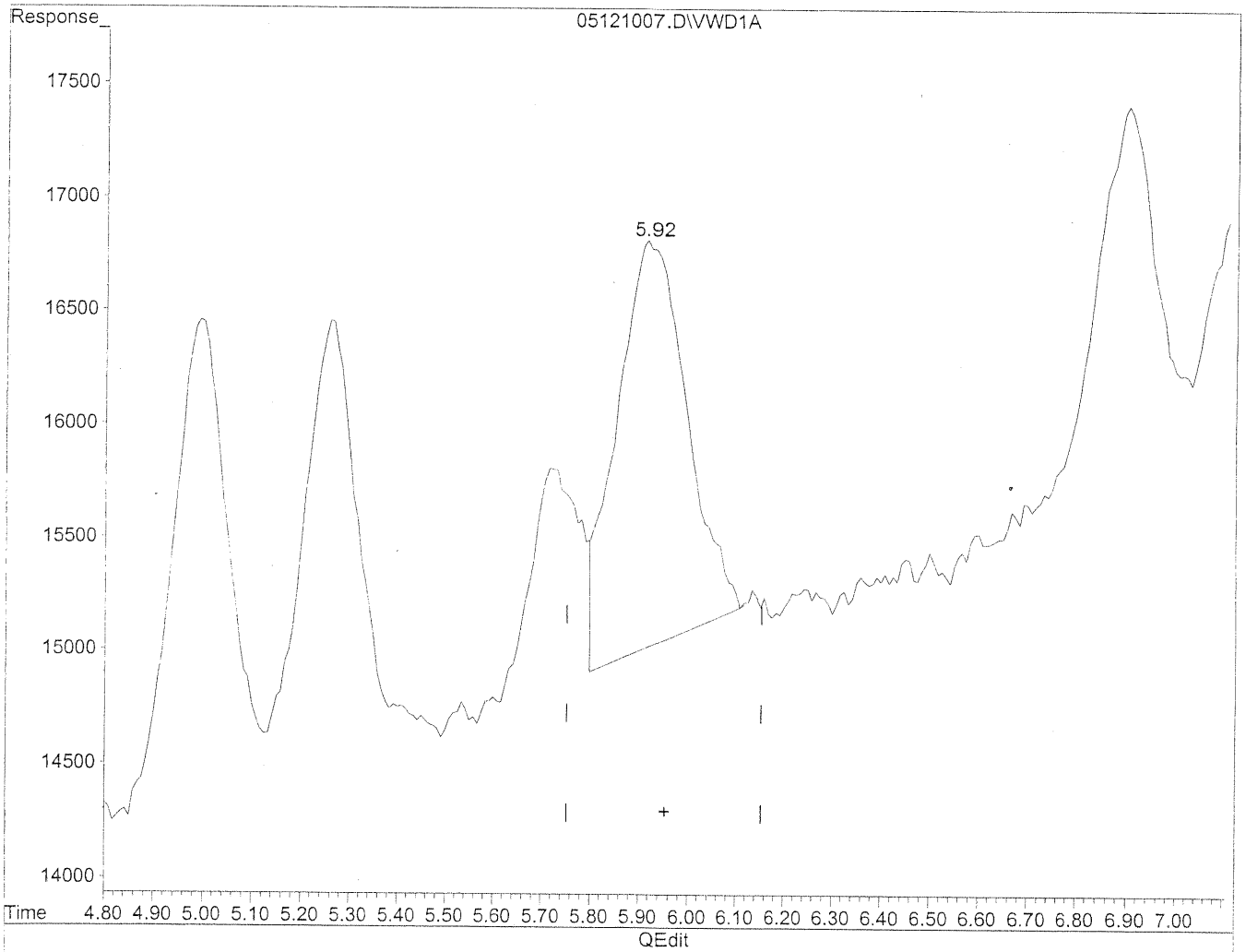
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 11:12:23 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

5.92min 84.279ng/ml

response 178798

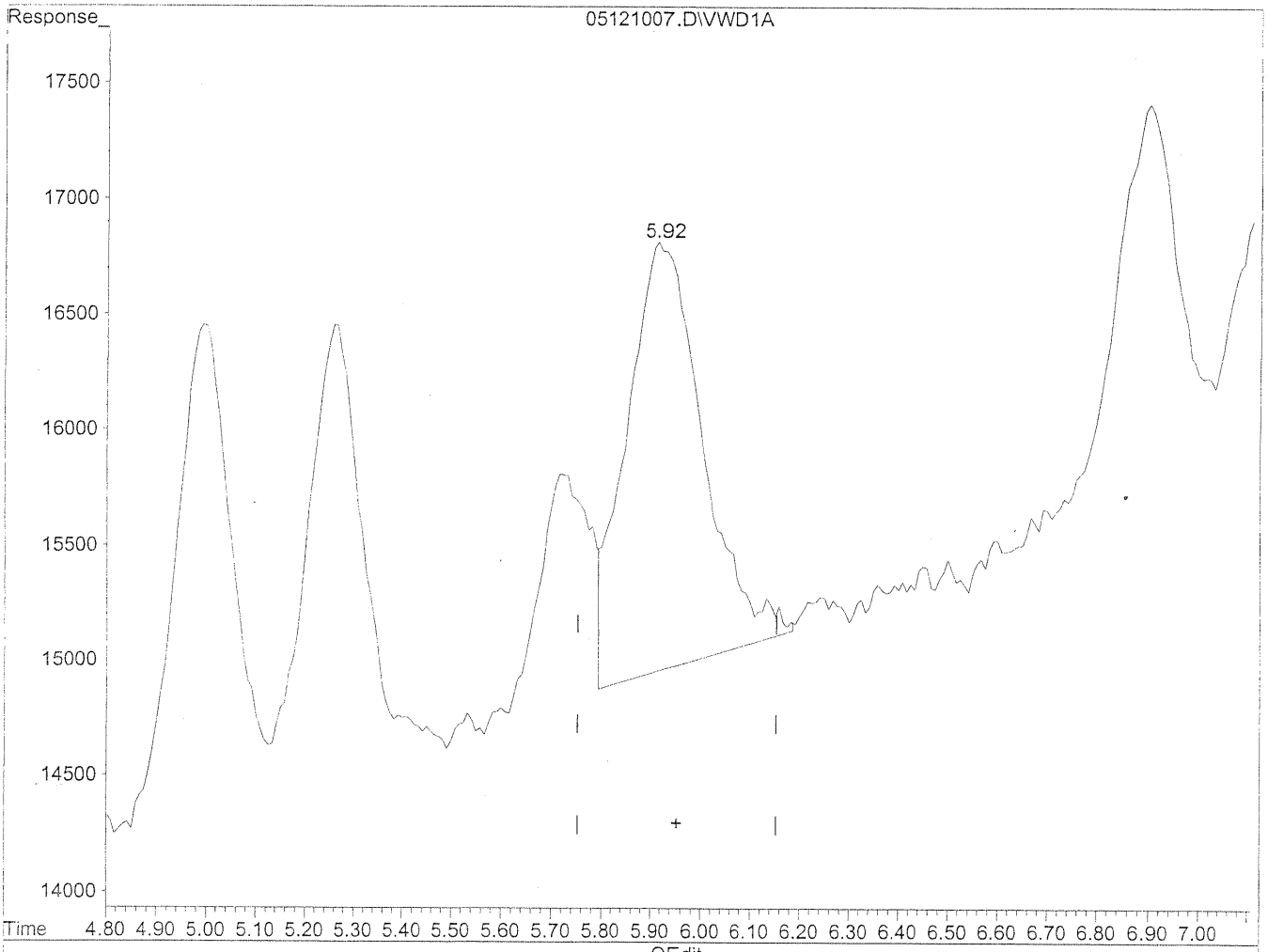
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 10:32:33 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

5.92min 93.234ng/ml m

response 197795

HC 5/19/10

PK MD 5/13/10

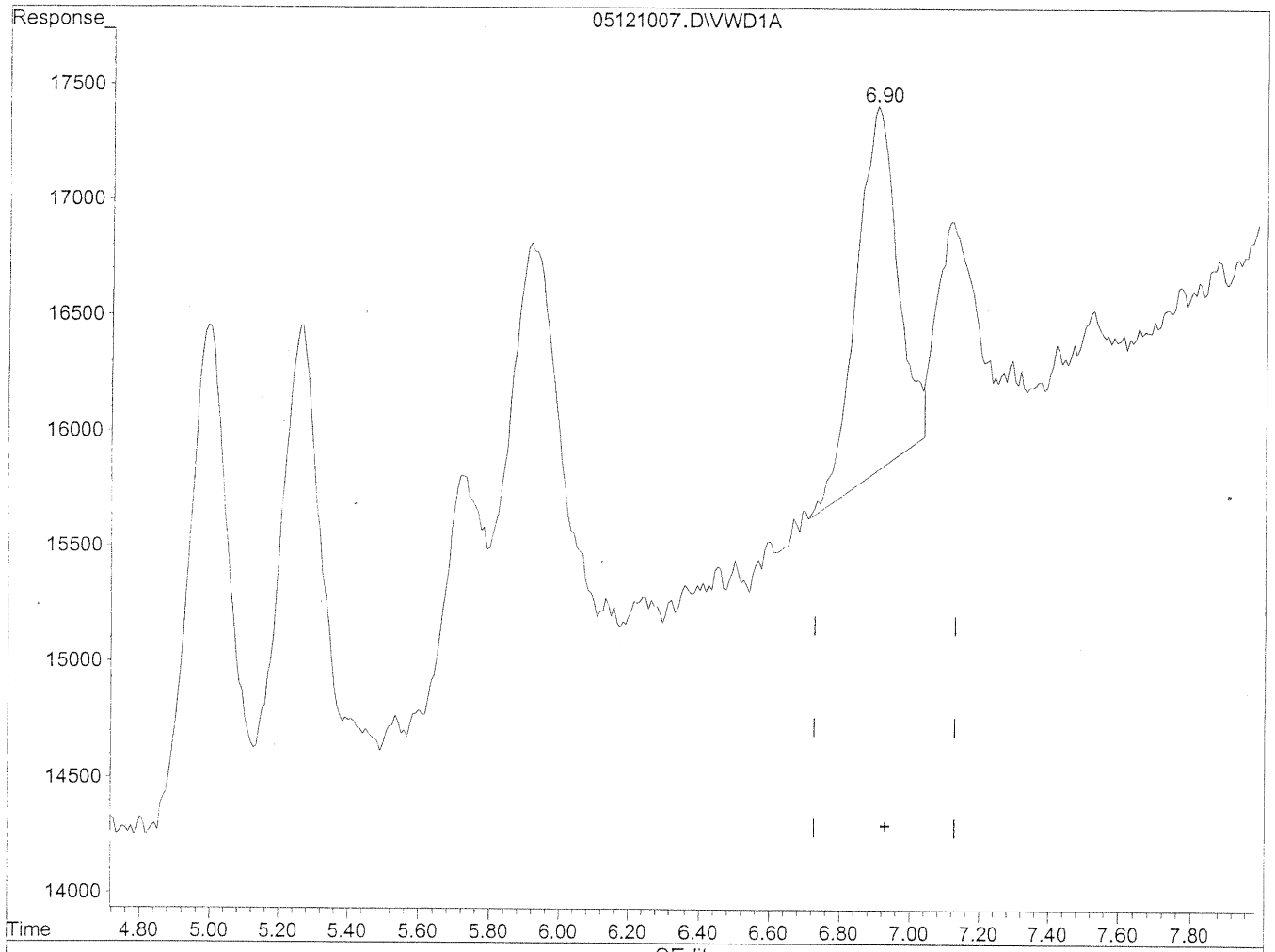
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 10:32:38 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:12 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:10:54 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.90min 40.372ng/ml

response 127230

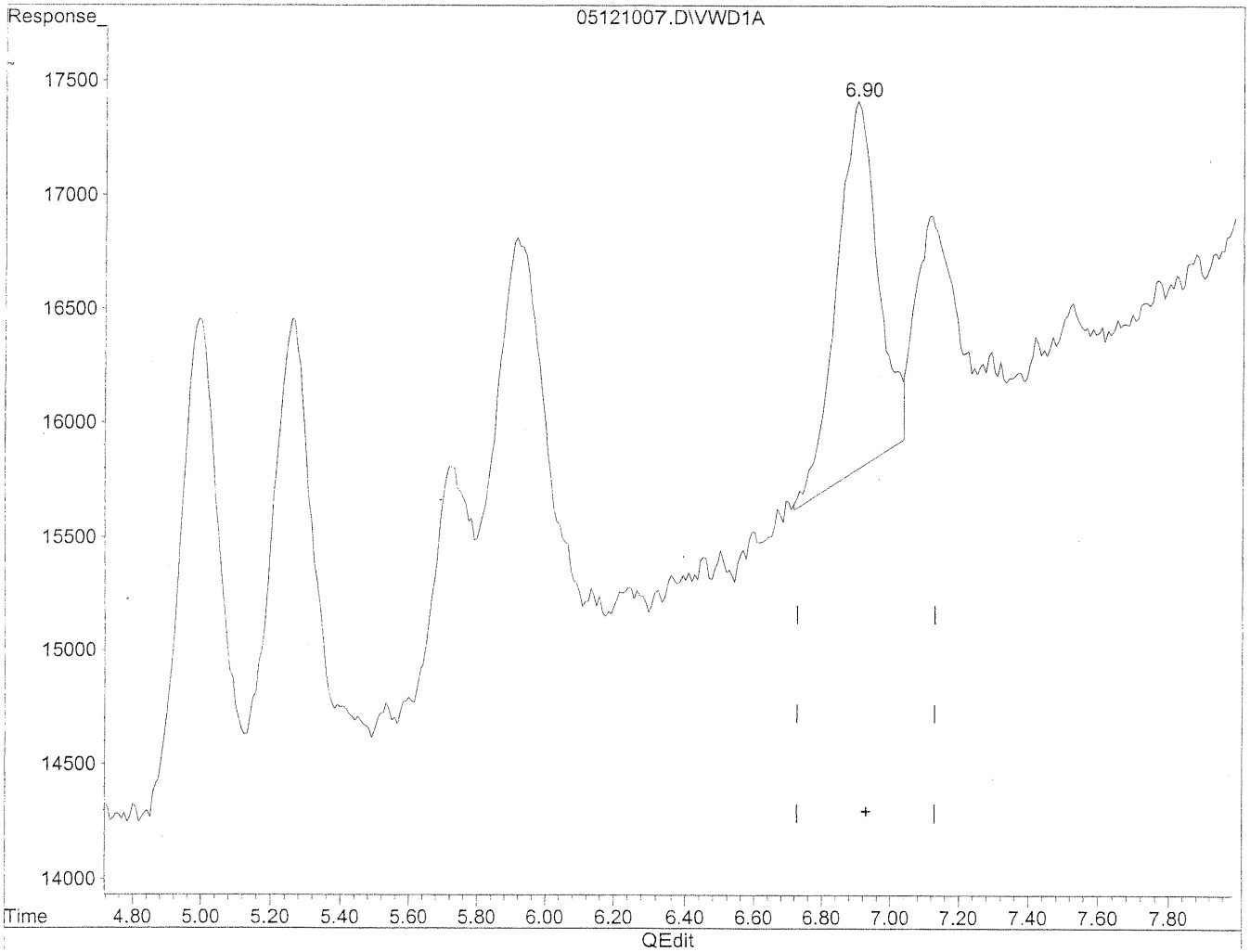
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 11:13:31 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:12 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:10:54 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.90min 42.839ng/ml m

response 135007

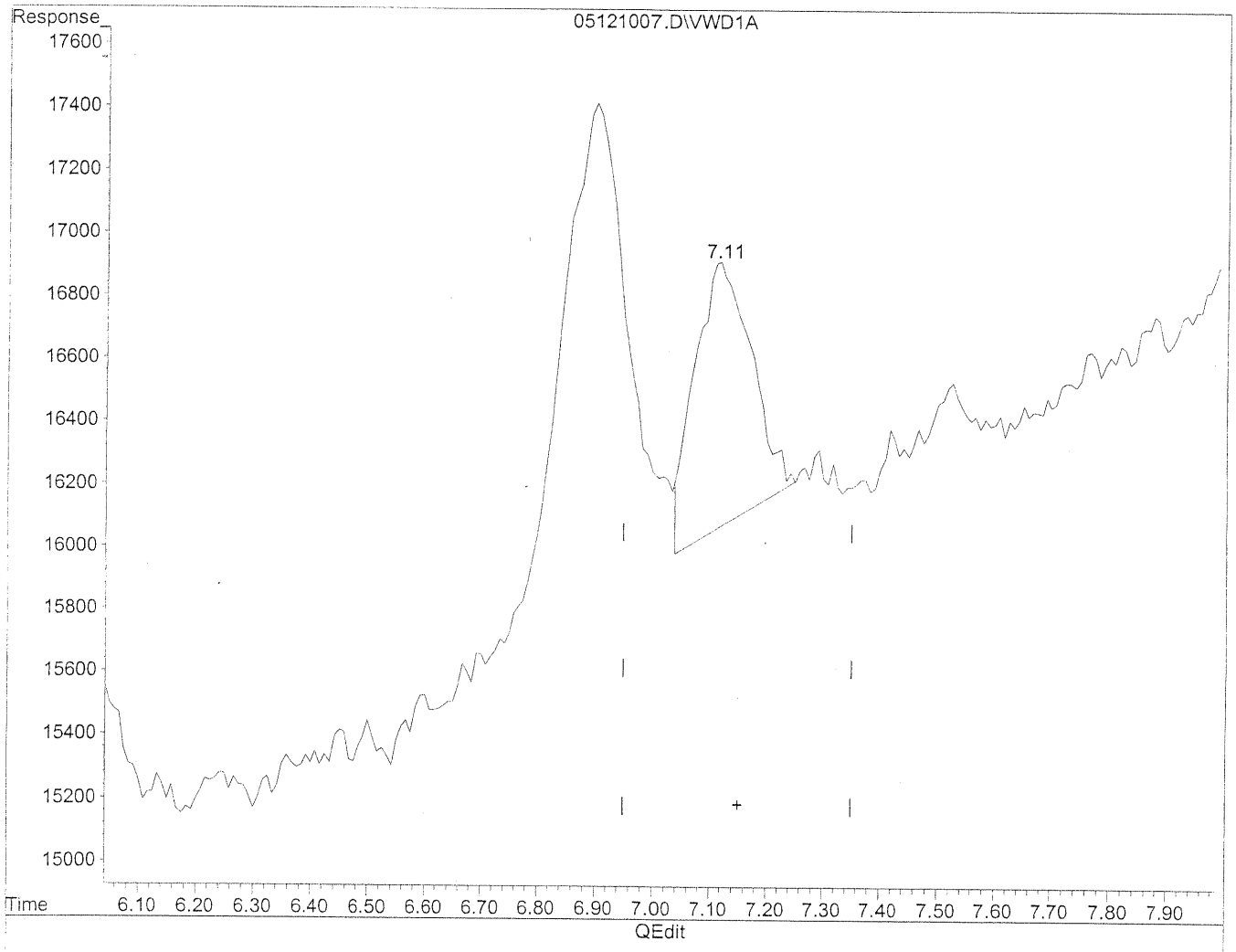
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 11:13:39 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:32 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.12min 33.460ng/ml

response 59043

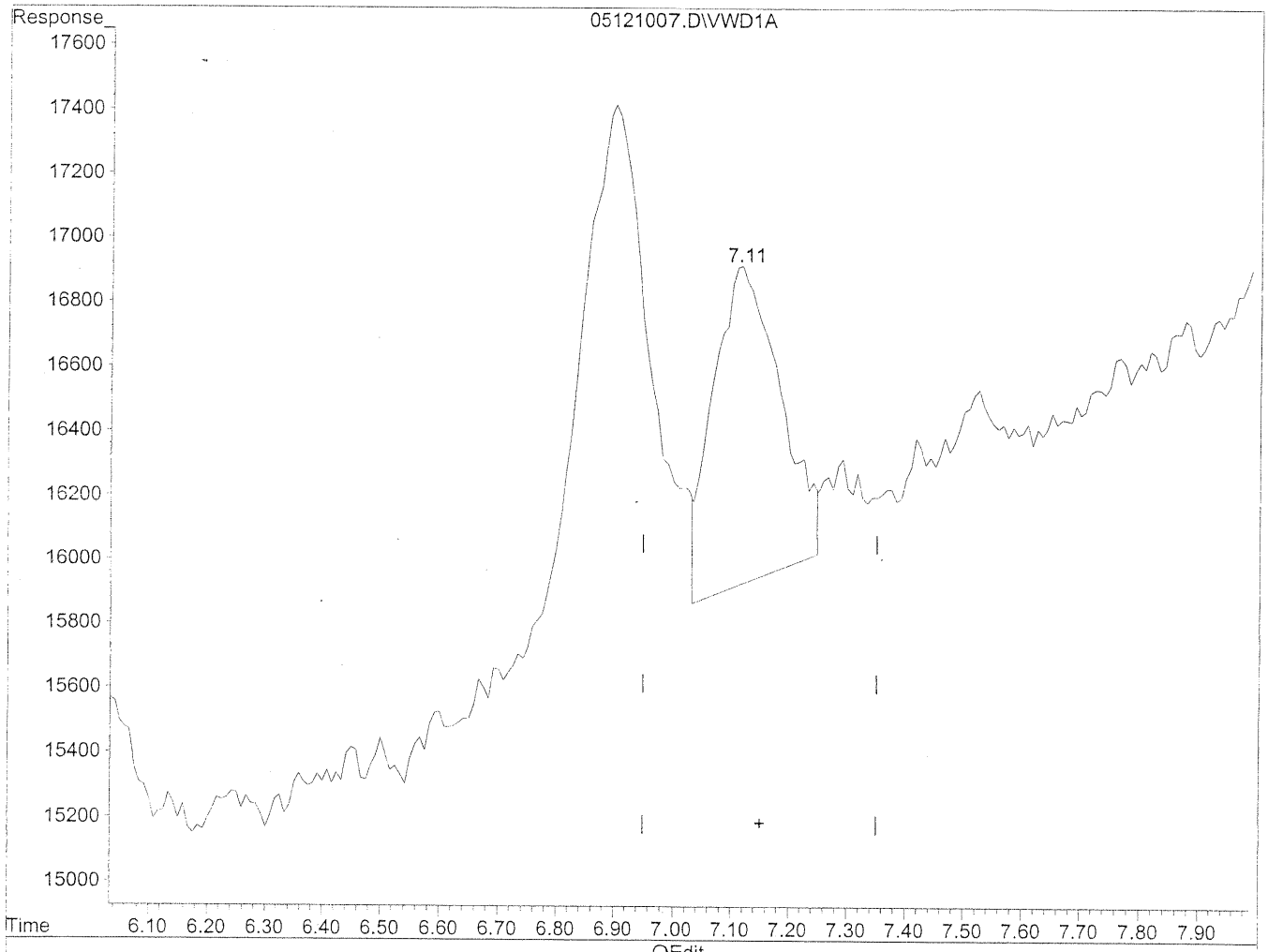
(+) = Expected Retention Time

05121007.D TO110510.M Thu May 13 10:32:44 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121007.D Vial: 126
Acq On : 12-May-2010, 13:19 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:45 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:47:19 2010
Response via : Multiple Level Calibration



QEdit

(12) 2,5-Dimethylbenzaldehyde

7.11min 45.044ng/ml m

response 79484

AC 5/19/10

BU 5/13/10

(+) = Expected Retention Time

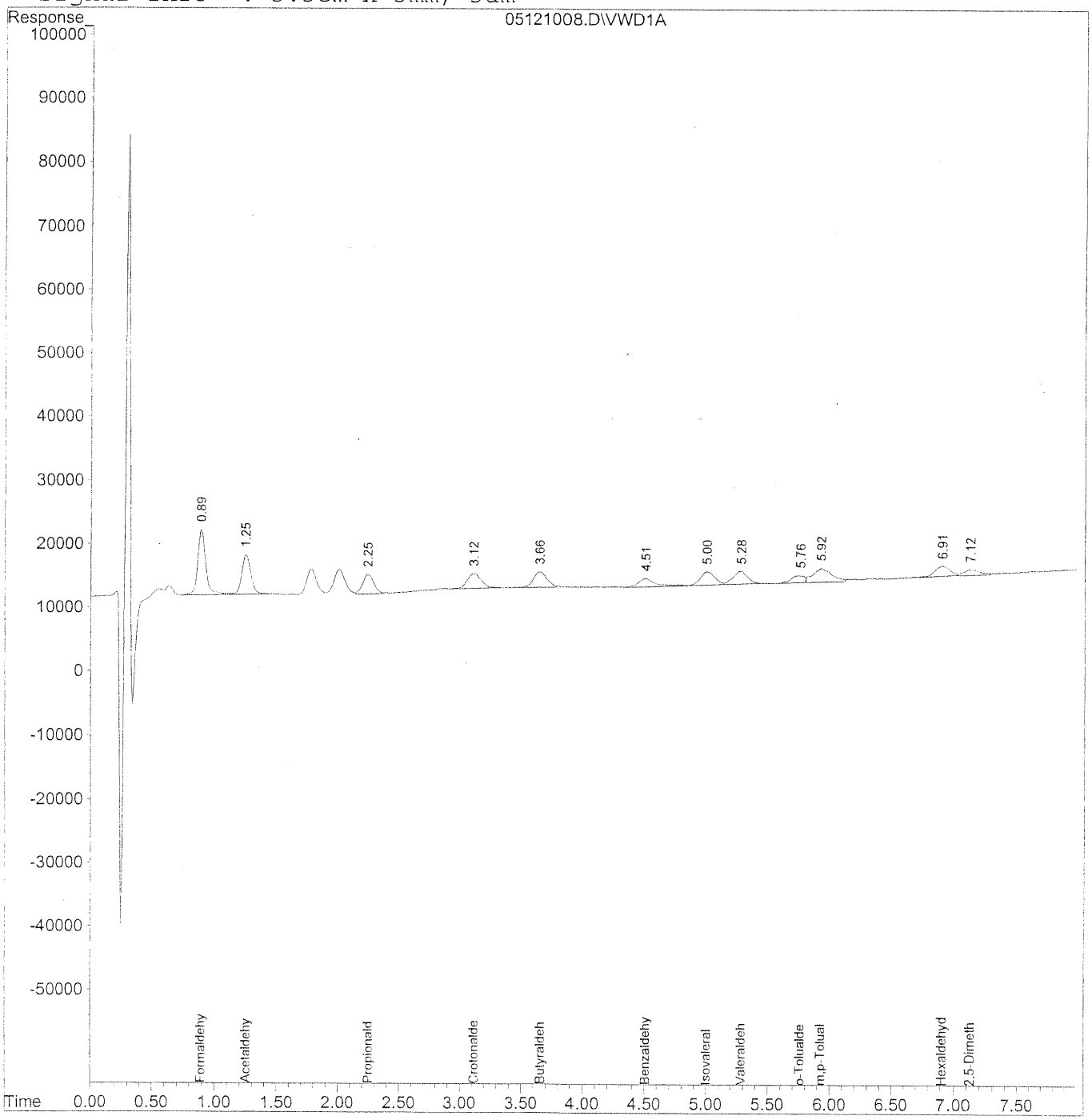
05121007.D TO110510.M Thu May 13 11:48:23 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:46 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:46 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

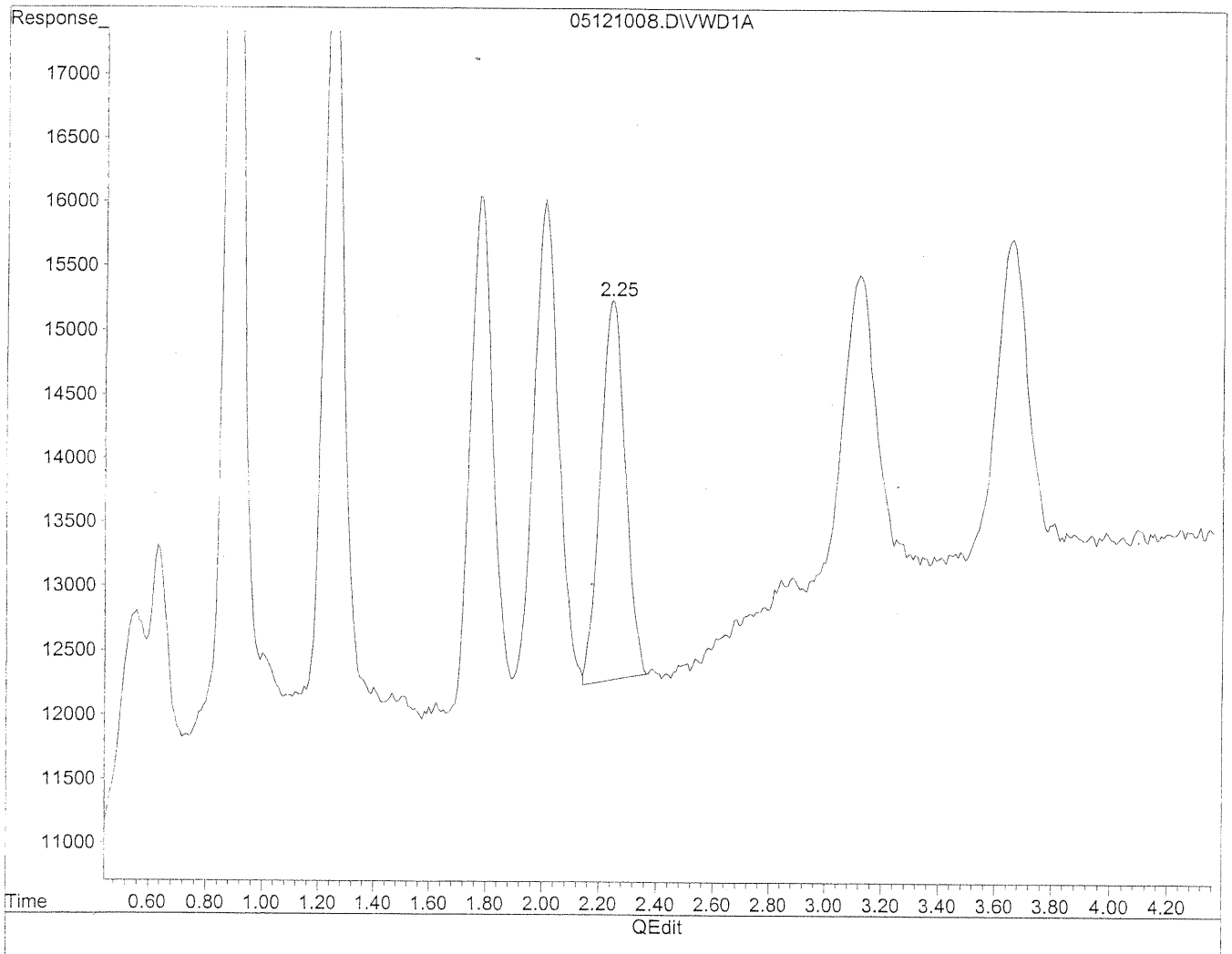
Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	466051	51.382	ng/ml
2)	Acetaldehyde	1.25	318576	48.792	ng/ml
3)	Propionaldehyde	2.25	195999	40.796	ng/mlm
4)	Crotonaldehyde	3.12	192970	48.284	ng/ml
5)	Butyraldehyde	3.66	184246	46.095	ng/ml
6)	Benzaldehyde	4.51	130943	49.449	ng/mlm
7)	Isovaleraldehyde	5.00	167432	47.084	ng/ml
8)	Valeraldehyde	5.28	162963	53.182	ng/ml
9)	o-Tolualdehyde	5.76	80865	32.524	ng/mlm
10)	m,p-Tolualdehyde	5.92	229847	108.673	ng/mlm
11)	Hexaldehyde	6.91	128732	41.189	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.12	77285	44.346	ng/mlm

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:13:47 2010
Response via : Multiple Level Calibration



(3) Propionaldehyde

2.25min 37.794ng/ml

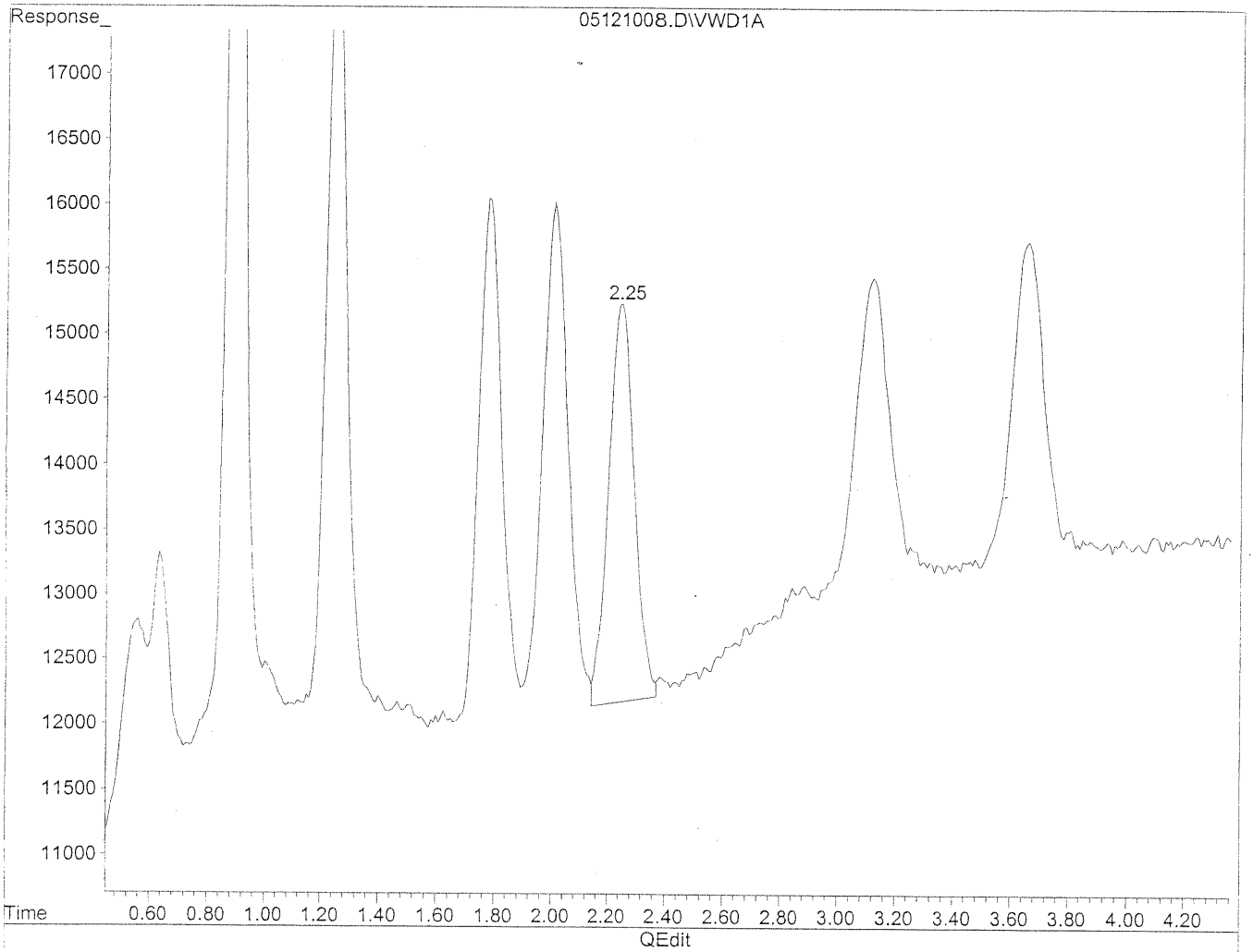
response 181574

(+) = Expected Retention Time

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:13:47 2010
Response via : Multiple Level Calibration



(3) Propionaldehyde

2.25min 40.796ng/ml m

response 195999

tlc 5/19/10

pc 5/13/10

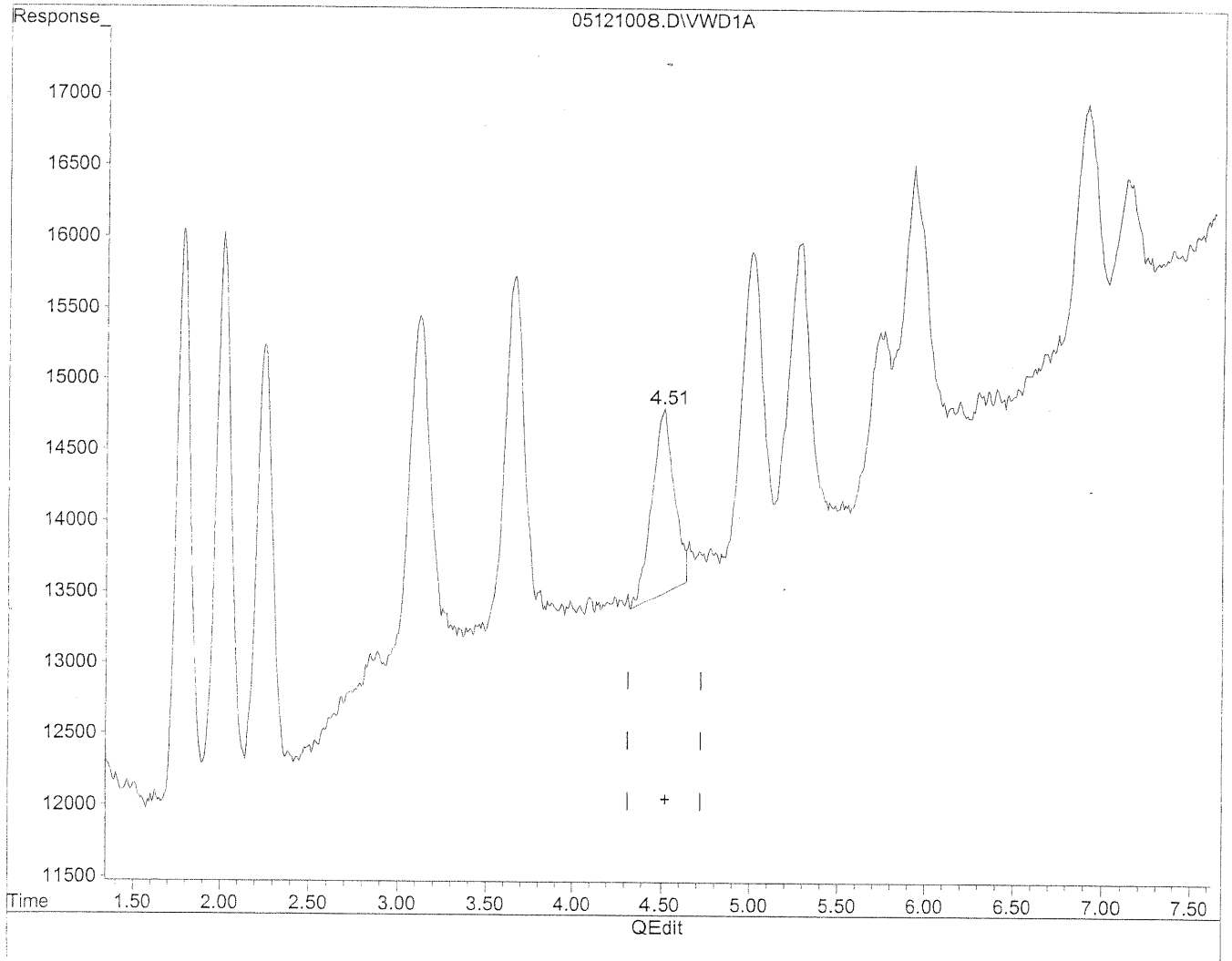
(+) = Expected Retention Time

05121008.D TO110510.M Thu May 13 11:14:13 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:14 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Tue Oct 13 11:33:26 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.51min 40.171ng/ml

response 106374

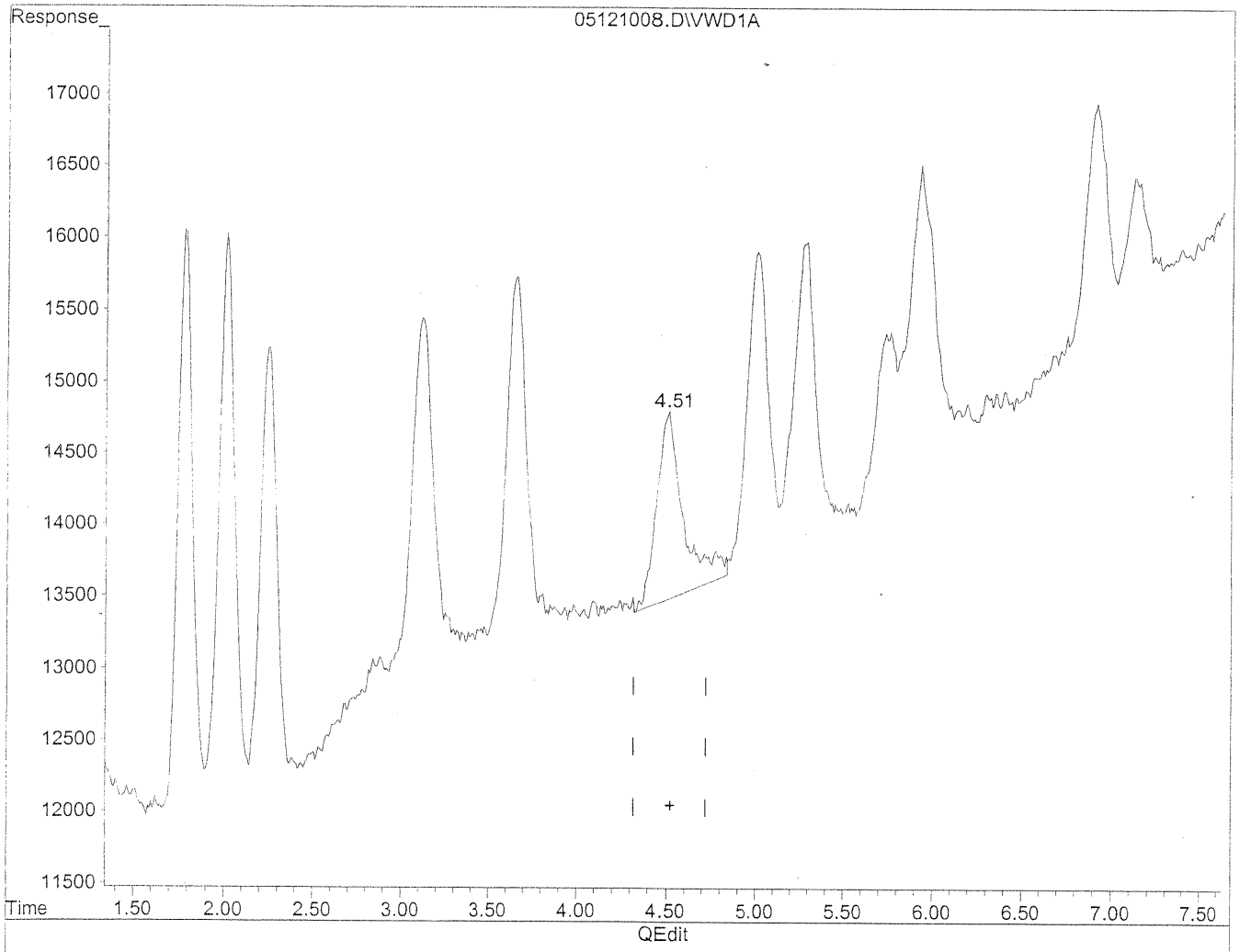
(+) = Expected Retention Time

05121008.D TO110510.M Thu May 13 11:33:28 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:14 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Tue Oct 13 11:33:26 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.51min 49.449ng/ml m

response 130943

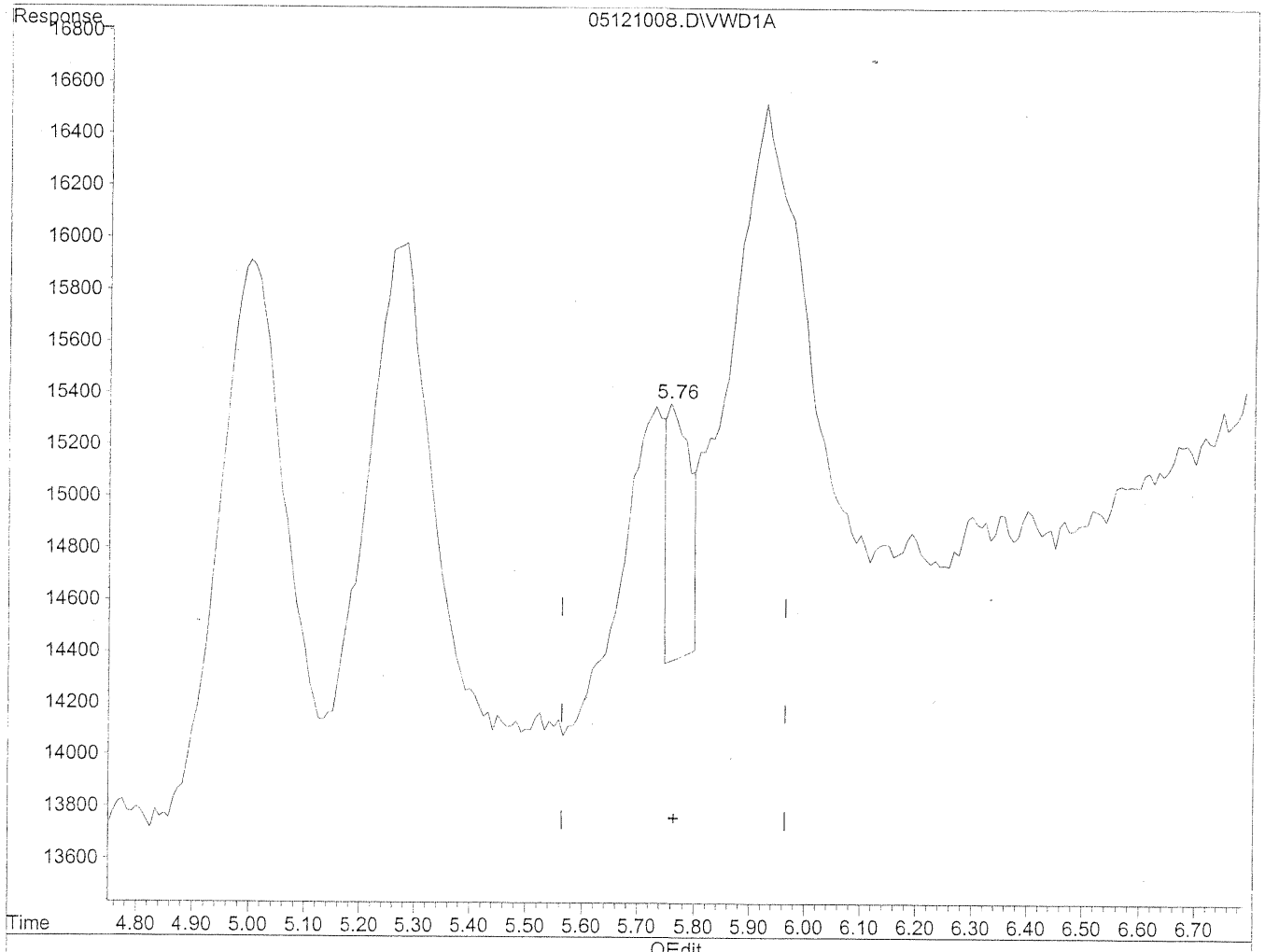
(+) = Expected Retention Time

05121008.D TO110510.M Thu May 13 11:33:42 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.76min 10.541ng/ml

response 26208

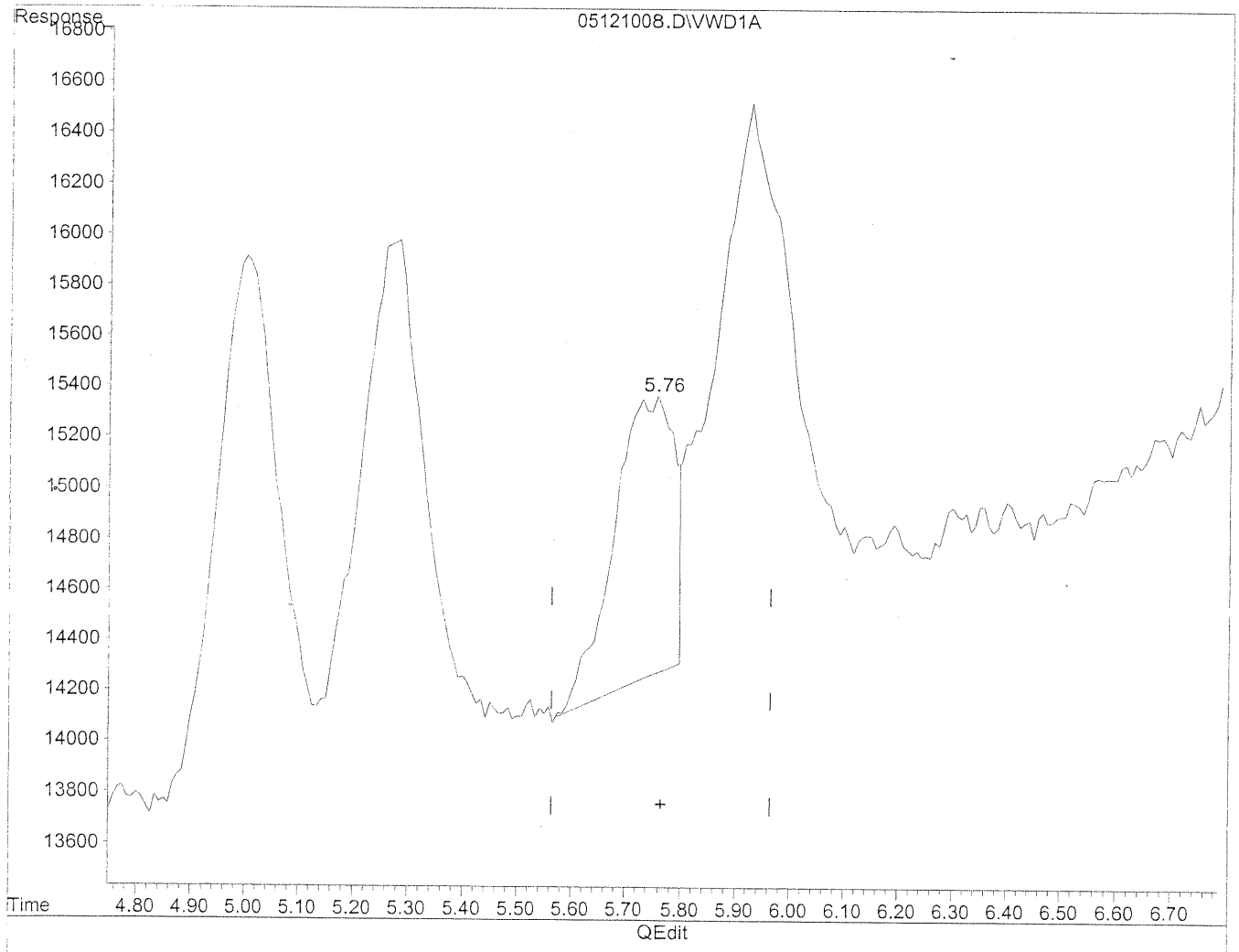
(+) = Expected Retention Time

05121008.D TO110510.M Thu May 13 10:33:36 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.76min 32.524ng/ml m

response 80865

5/9/10

5/13/10

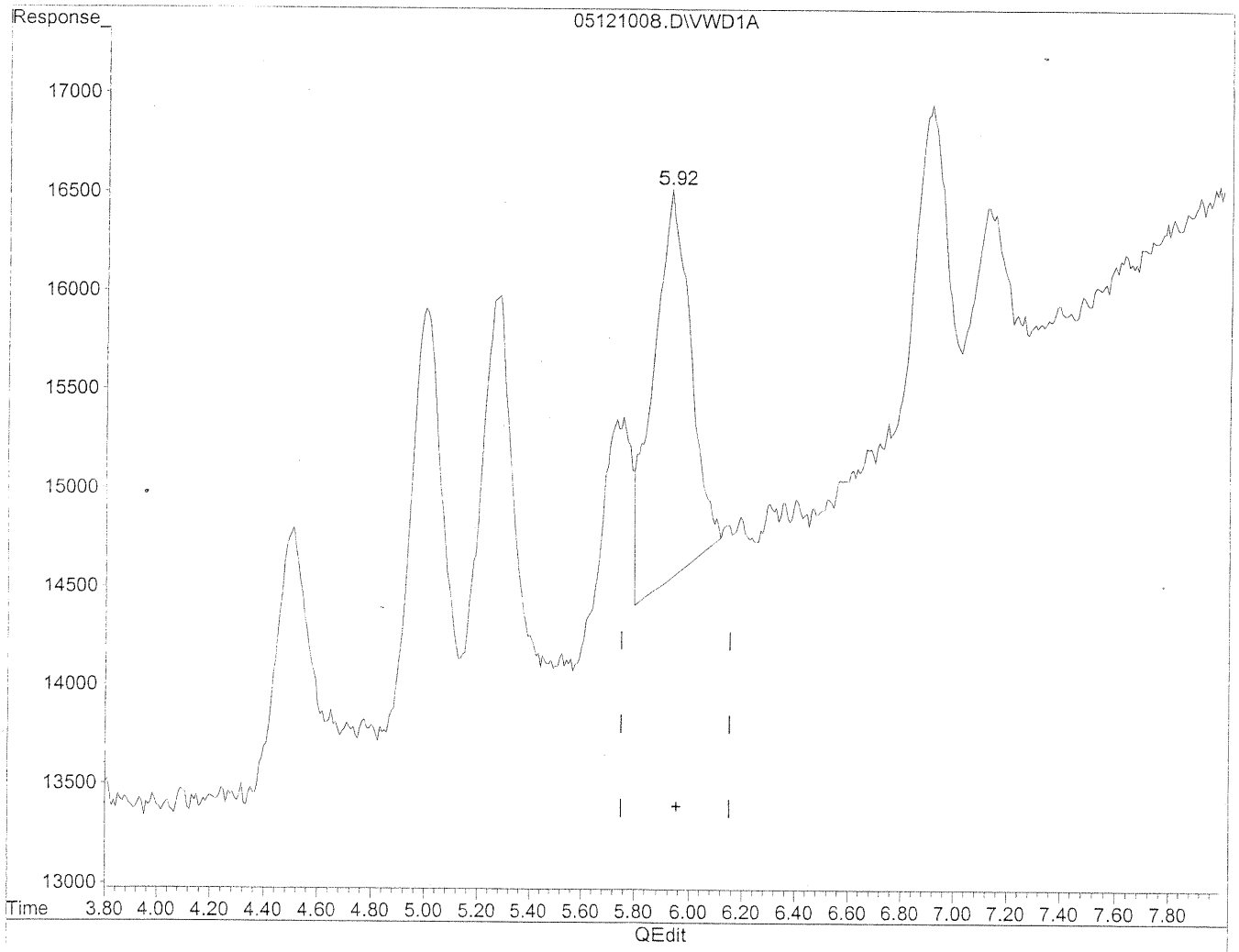
(+) = Expected Retention Time

05121008.D TO110510.M Thu May 13 10:33:42 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

5.93min 87.965ng/ml

response 186049

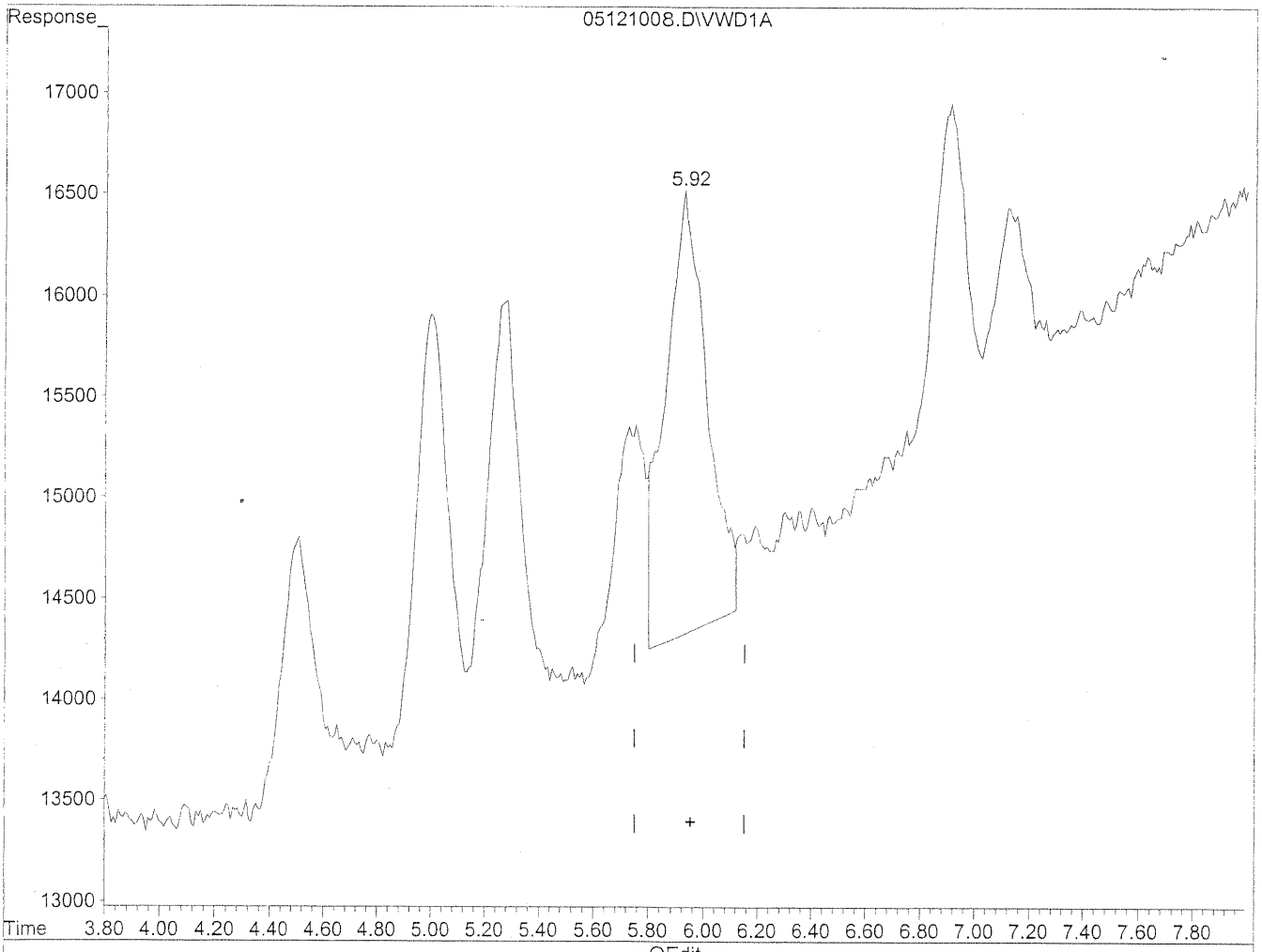
(+) = Expected Retention Time

05121008.D TO110510.M Thu May 13 10:33:46 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

5.92min 108.673ng/ml m

response 229847

5/13/10

5/13/10

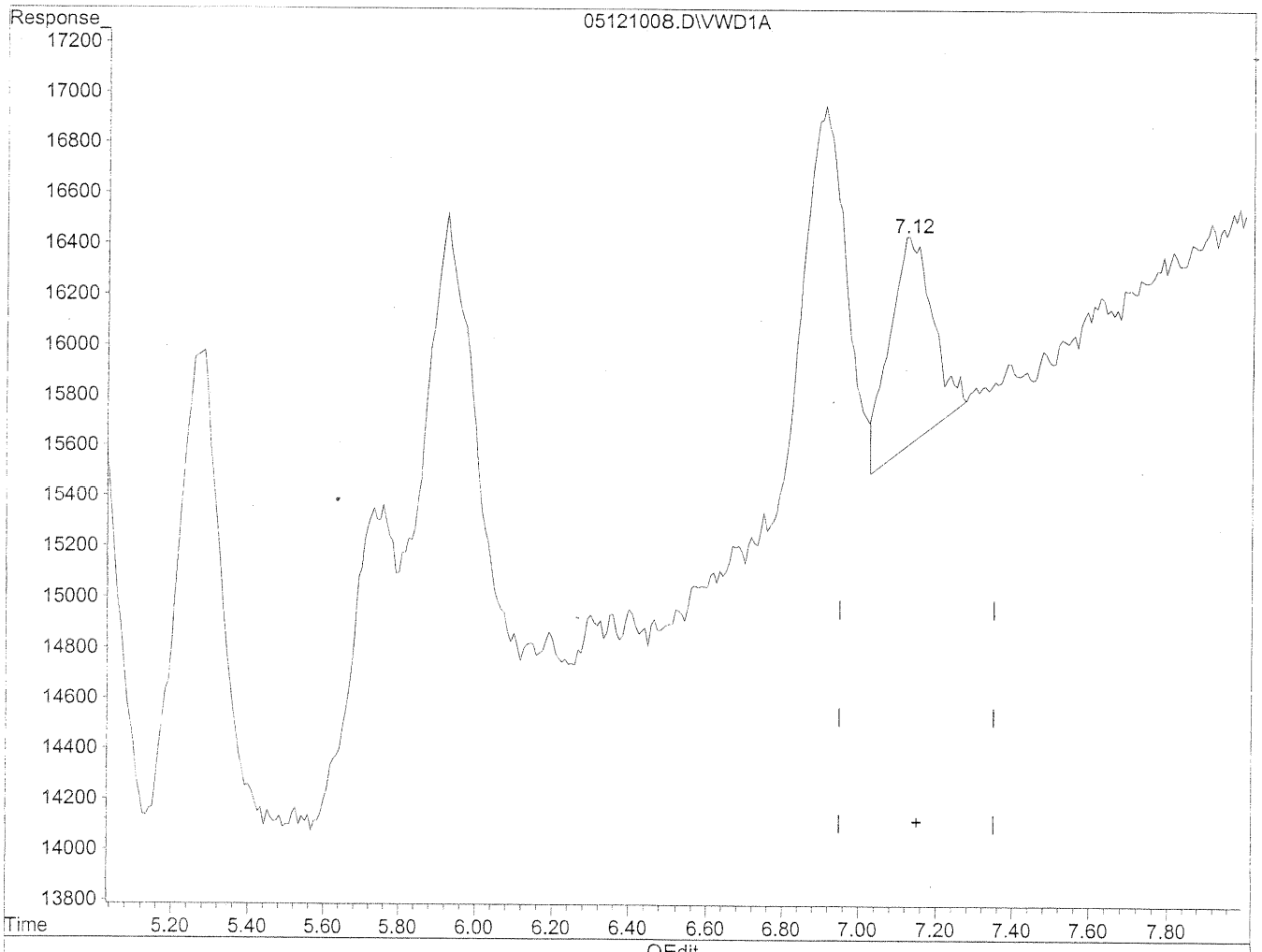
(+) = Expected Retention Time

05121008.D TO110510.M Thu May 13 10:33:57 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:33 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:13:47 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.13min 36.406ng/ml

response 63447

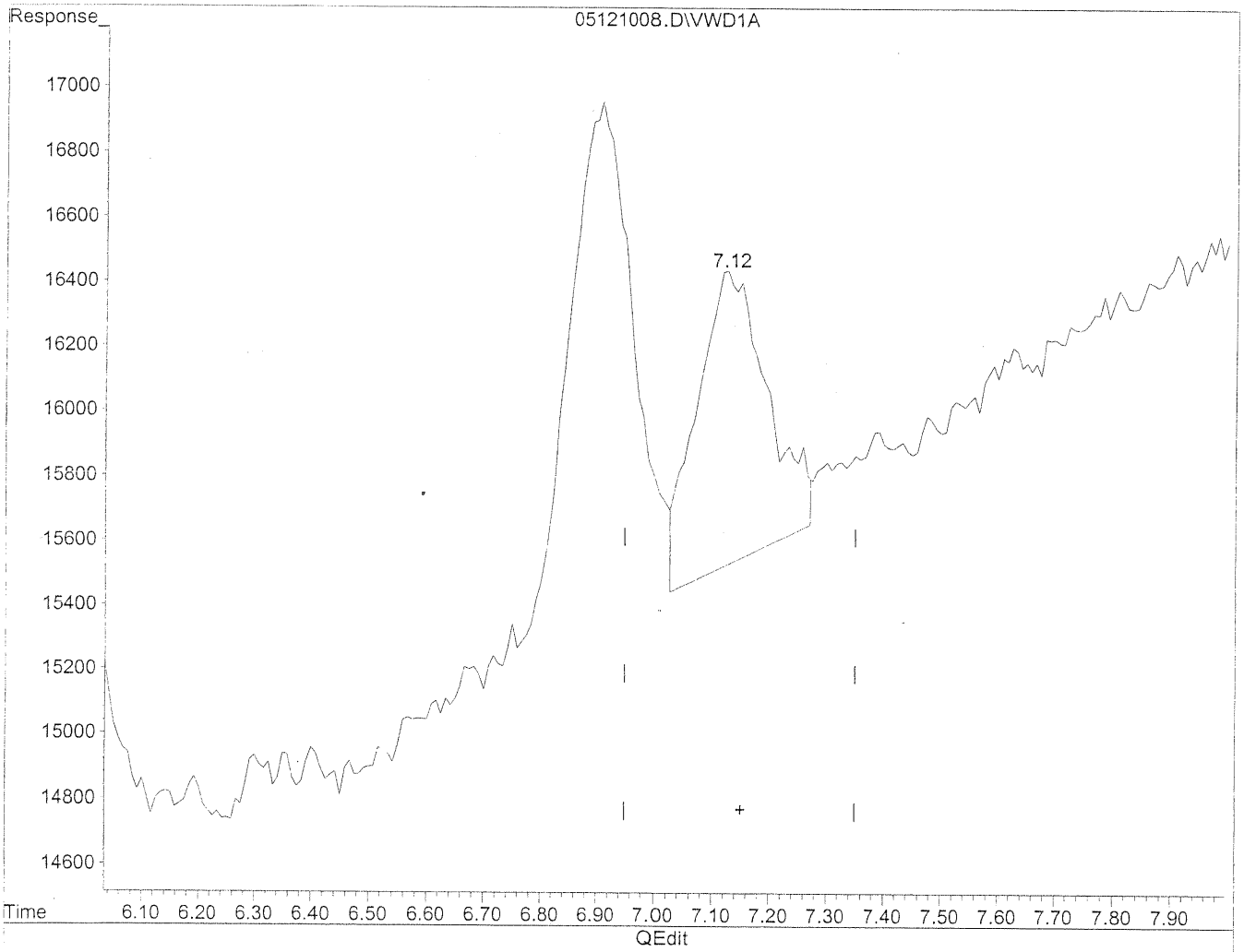
(+) = Expected Retention Time

05121008.D TO110510.M Thu May 13 11:14:39 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121008.D Vial: 126
Acq On : 12-May-2010, 13:29 Operator: MD
Sample : 50ng/ml TO-11A S21-03091012 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:47:19 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.12min 44.346ng/ml m

response 77285

5/12/10

5/13/10

(+) = Expected Retention Time

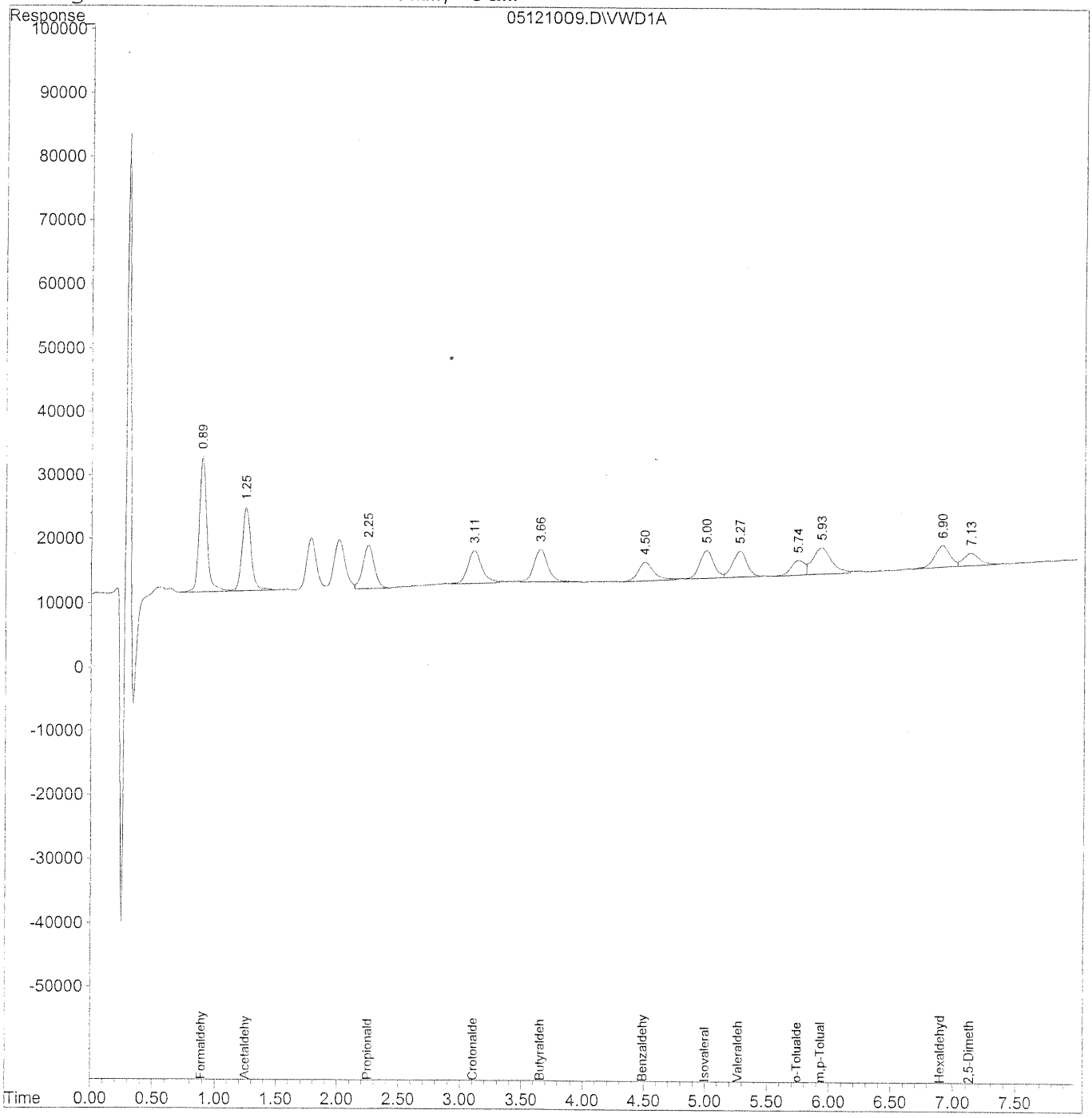
05121008.D TO110510.M Thu May 13 11:48:30 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:17 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:17 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

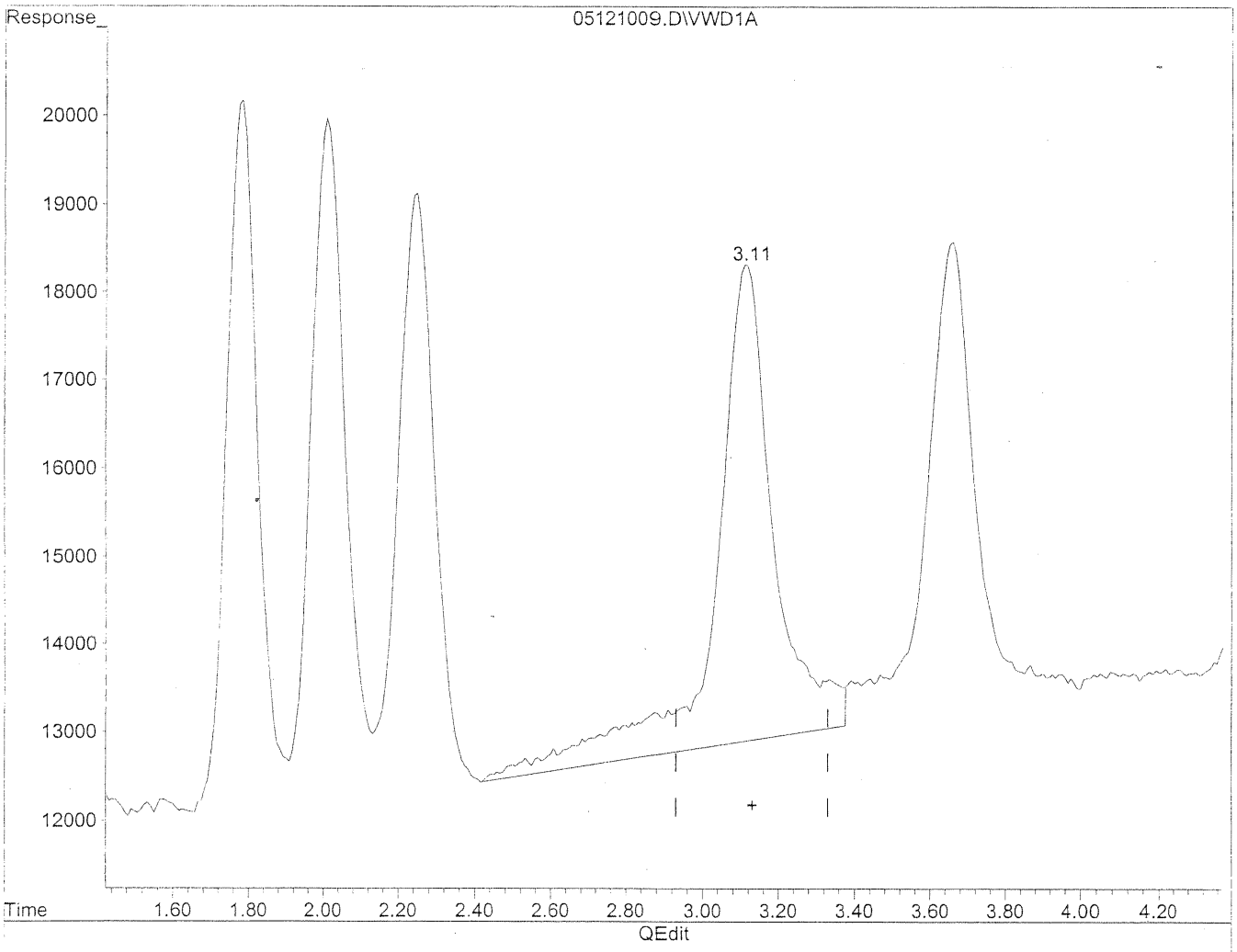
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	932611	102.777	ng/ml
2)	Acetaldehyde	1.25	659740	101.125	ng/ml
3)	Propionaldehyde	2.25	447517	93.493	ng/ml
4)	Crotonaldehyde	3.11	408188	101.858	ng/mlm
5)	Butyraldehyde	3.66	398668	99.756	ng/mlm
6)	Benzaldehyde	4.50	261667	99.358	ng/mlm
7)	Isovaleraldehyde	5.00	350261	98.250	ng/ml
8)	Valeraldehyde	5.27	328444	106.864	ng/ml
9)	o-Tolualdehyde	5.74	187057	74.960	ng/mlm
10)	m,p-Tolualdehyde	5.93	435423	204.358	ng/mlm
11)	Hexaldehyde	6.91	275782	88.437	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.13	172979	100.053	ng/mlm

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(4) Crotonaldehyde

3.12min 145.785ng/ml

response 584226

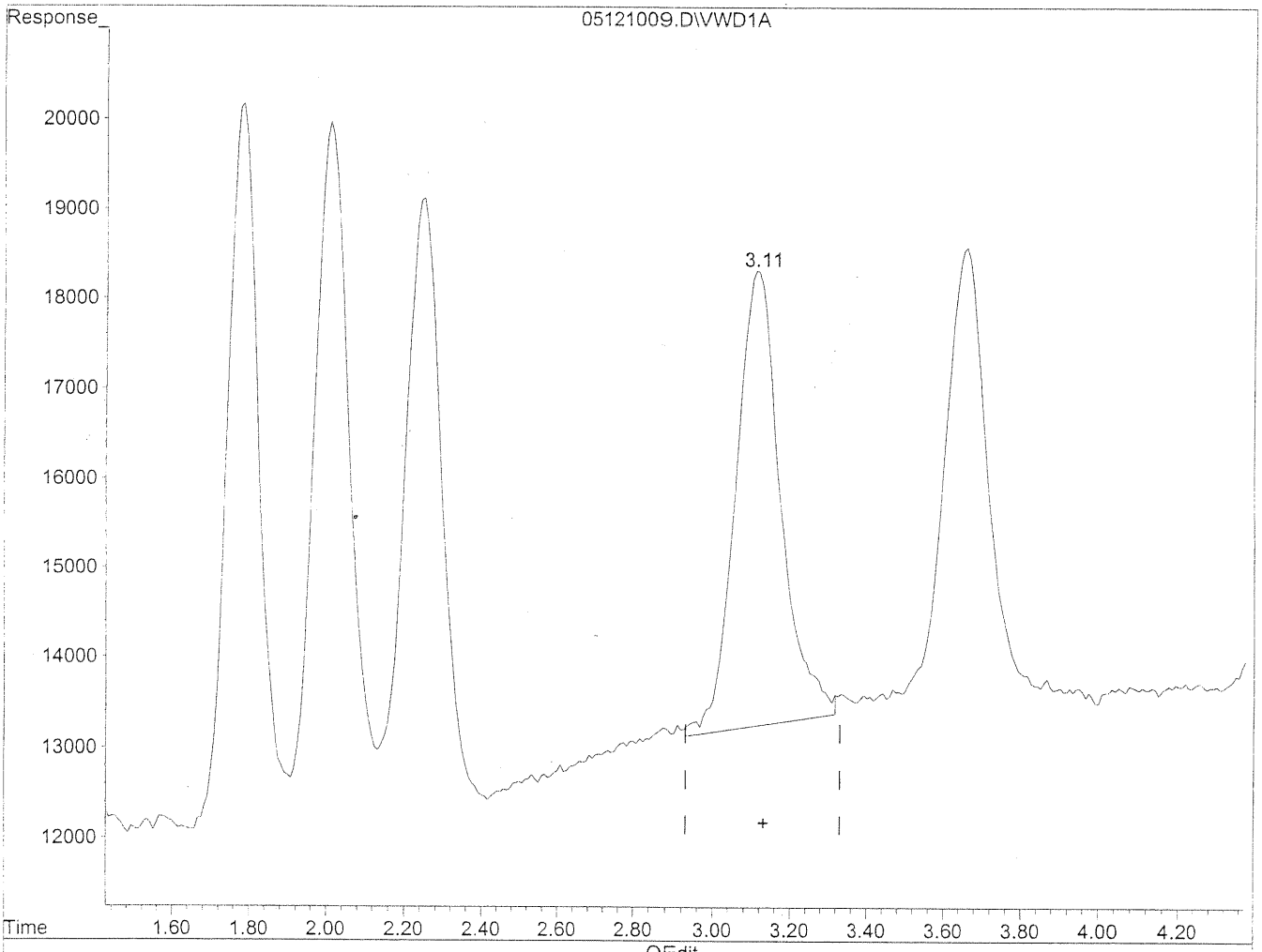
(+) = Expected Retention Time

05121009.D TO110510.M Thu May 13 10:34:22 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(4) Crotonaldehyde

3.11min 101.858ng/ml m

response 408188

MC 5/19/10

TMO 5/13/10

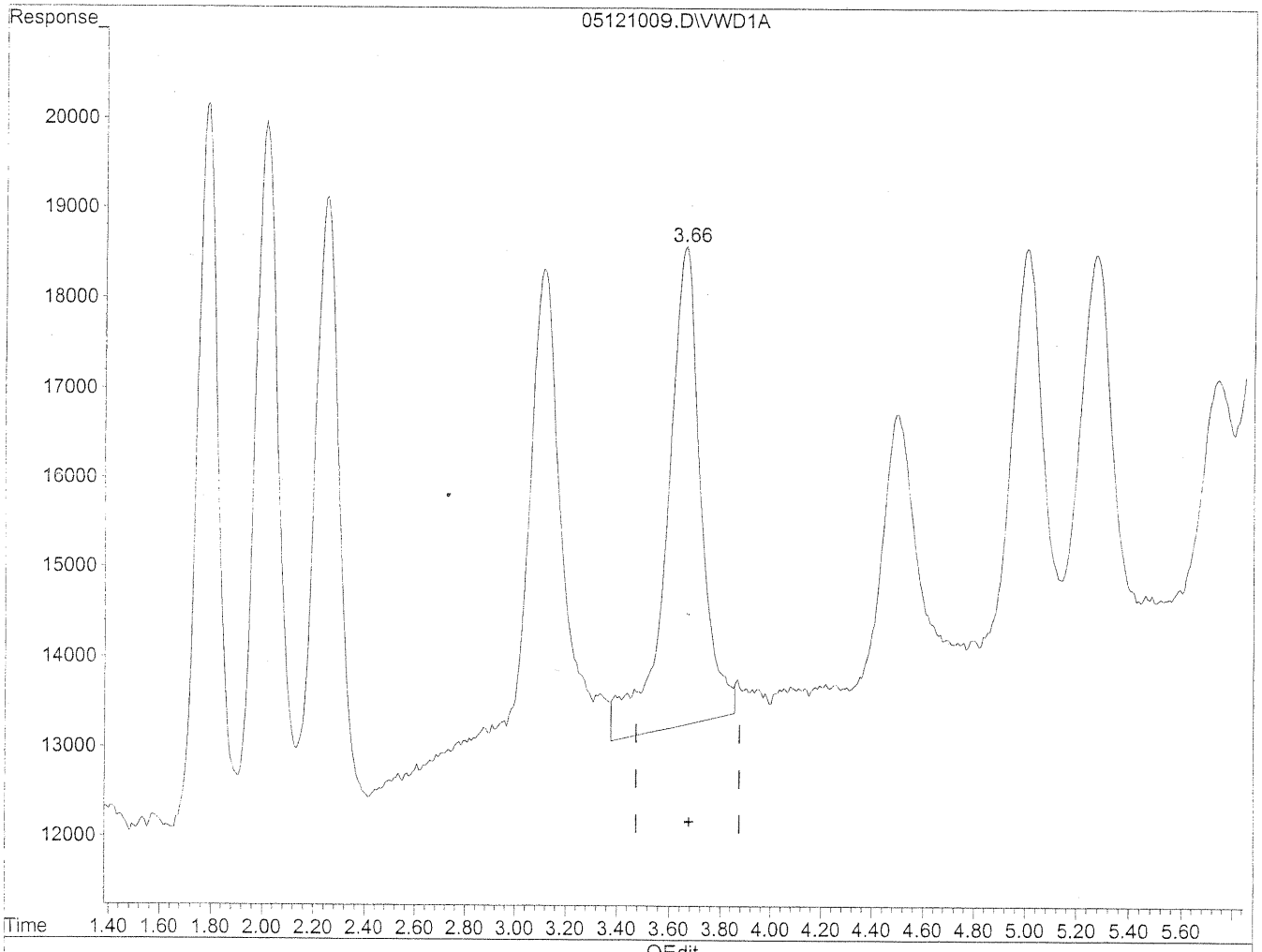
(+) = Expected Retention Time

05121009.D TO110510.M Thu May 13 10:34:27 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.66min 119.907ng/ml

response 479199

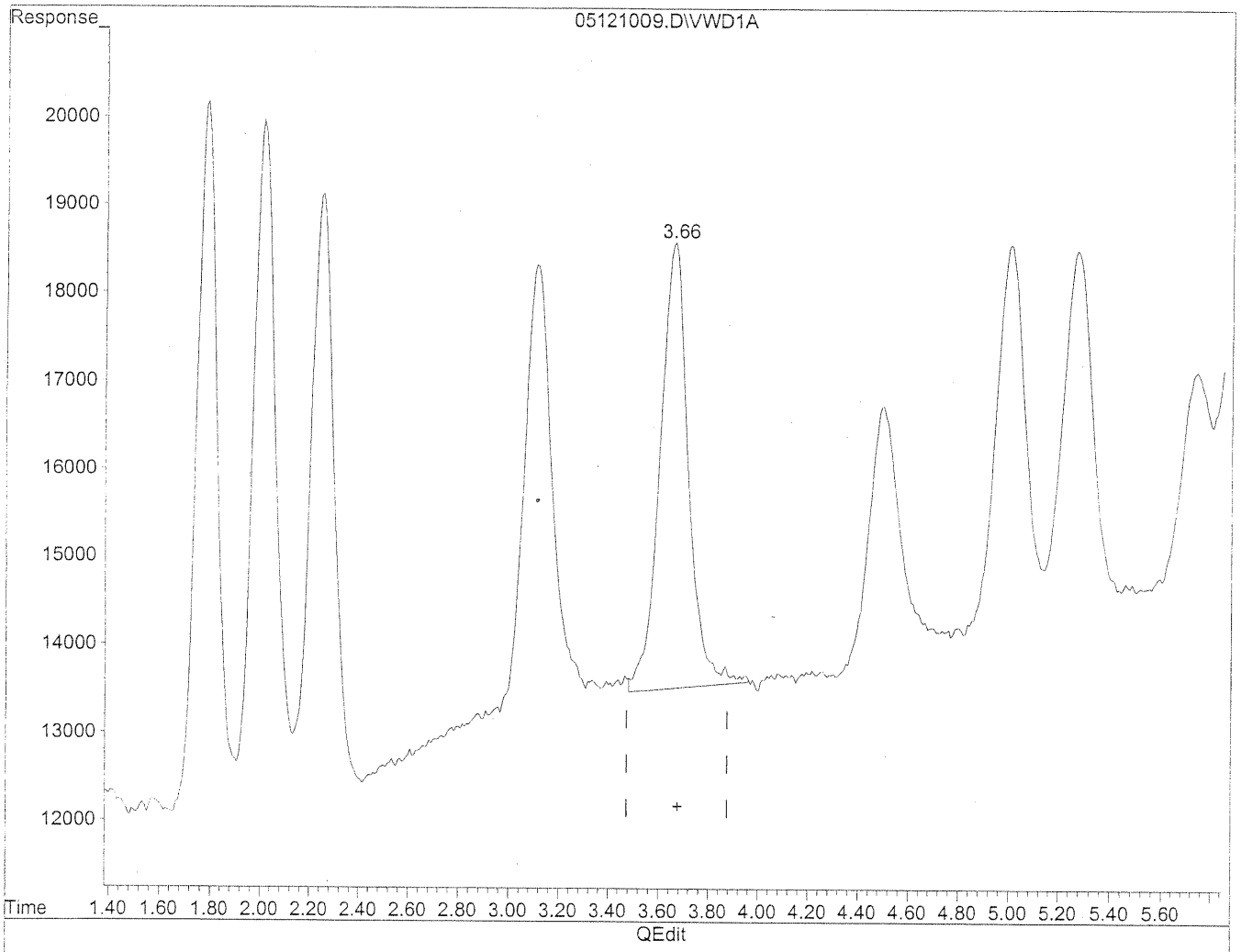
(+) = Expected Retention Time

05121009.D TO110510.M Thu May 13 10:34:31 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.66min 99.756ng/ml m

response 398668

HC 5/19/10

5/13/10

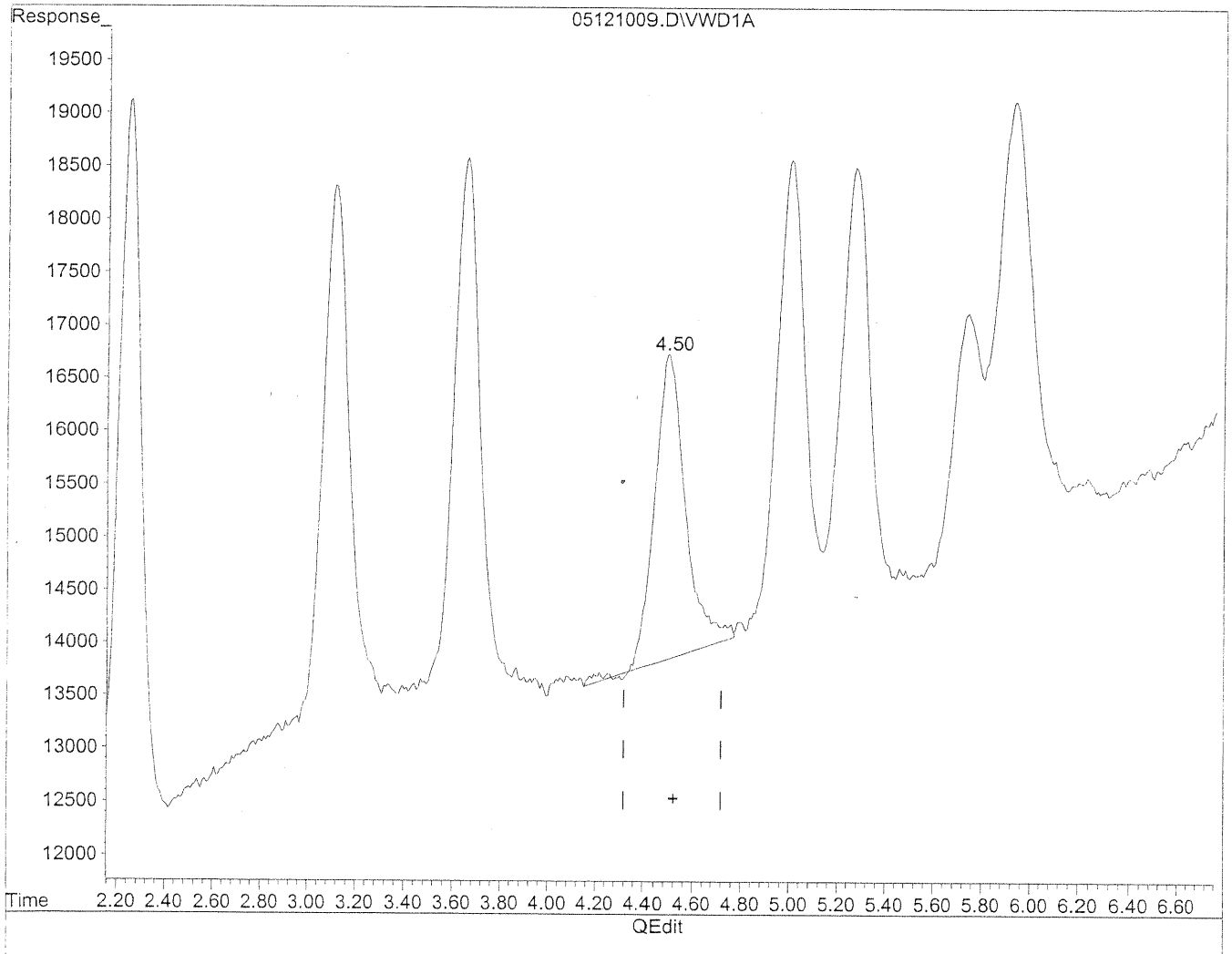
(+) = Expected Retention Time

05121009.D TO110510.M Thu May 13 10:34:37 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:15:00 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.50min 95.373ng/ml

response 251171

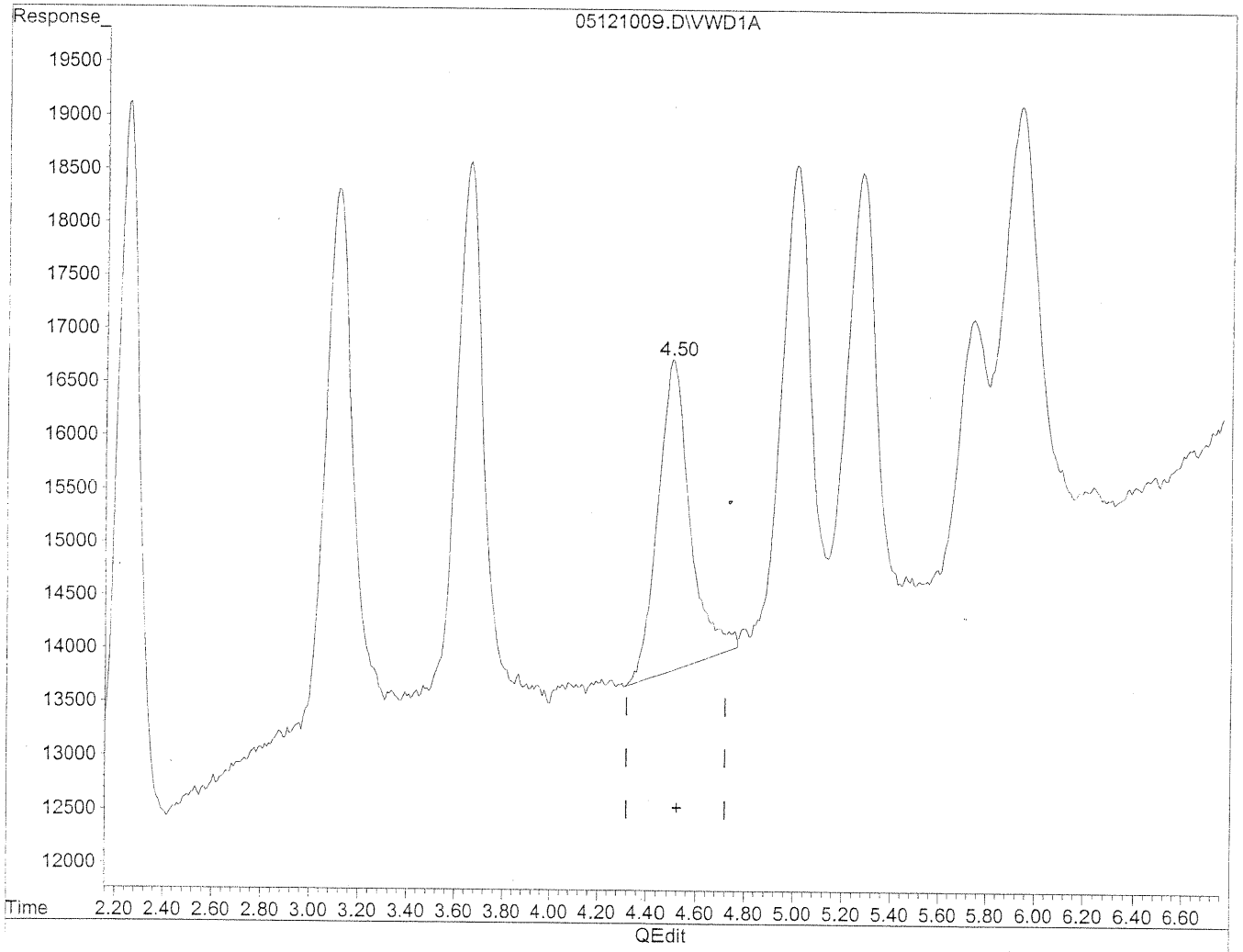
(+) = Expected Retention Time

05121009.D TO110510.M Thu May 13 11:16:10 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:15:00 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.50min 99.358ng/ml m

response 261667

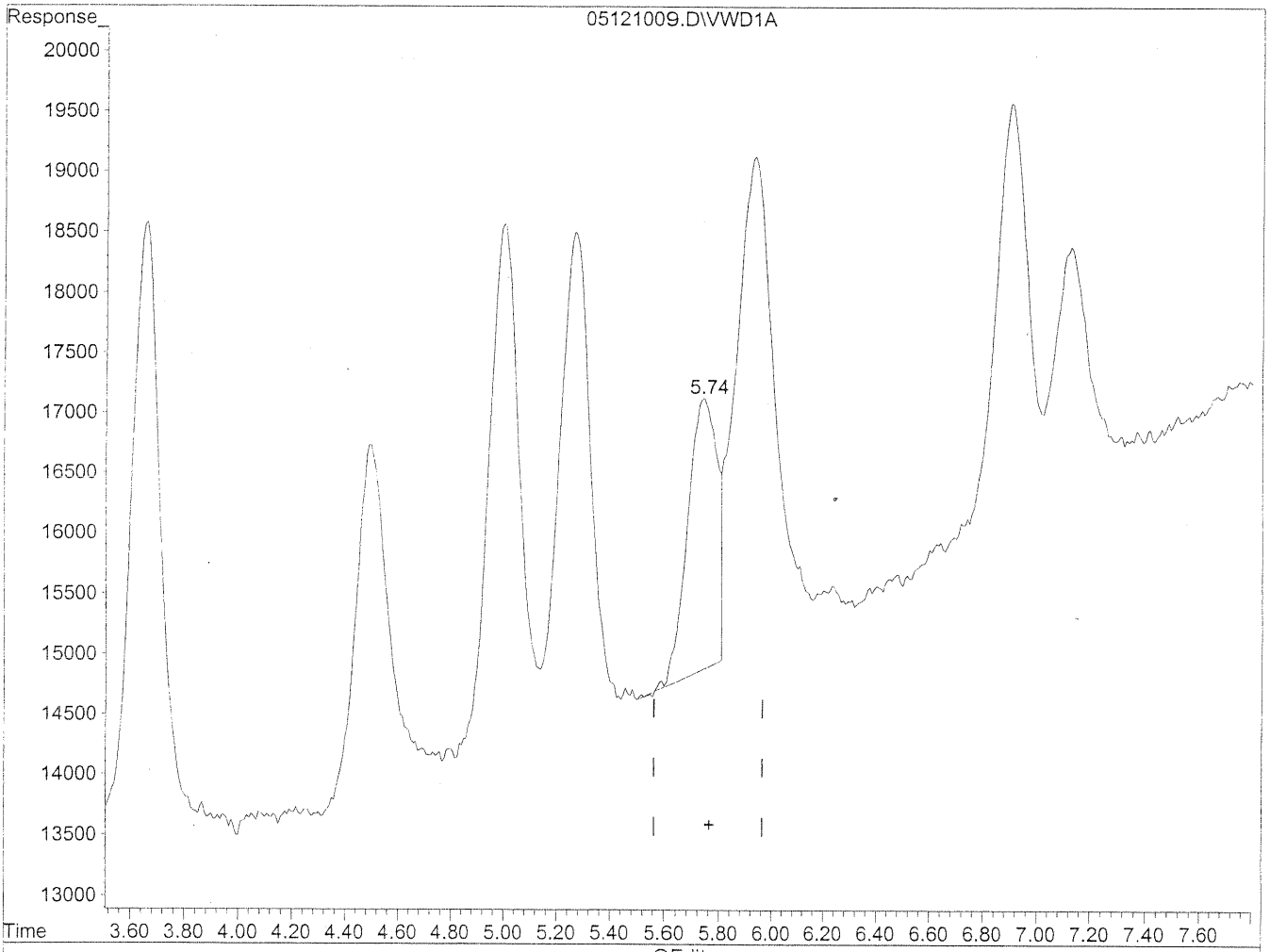
5/10/10 5/13/10

(+) = Expected Retention Time
05121009.D TO110510.M Thu May 13 11:16:16 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:15:00 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.74min 66.961ng/ml

response 167097

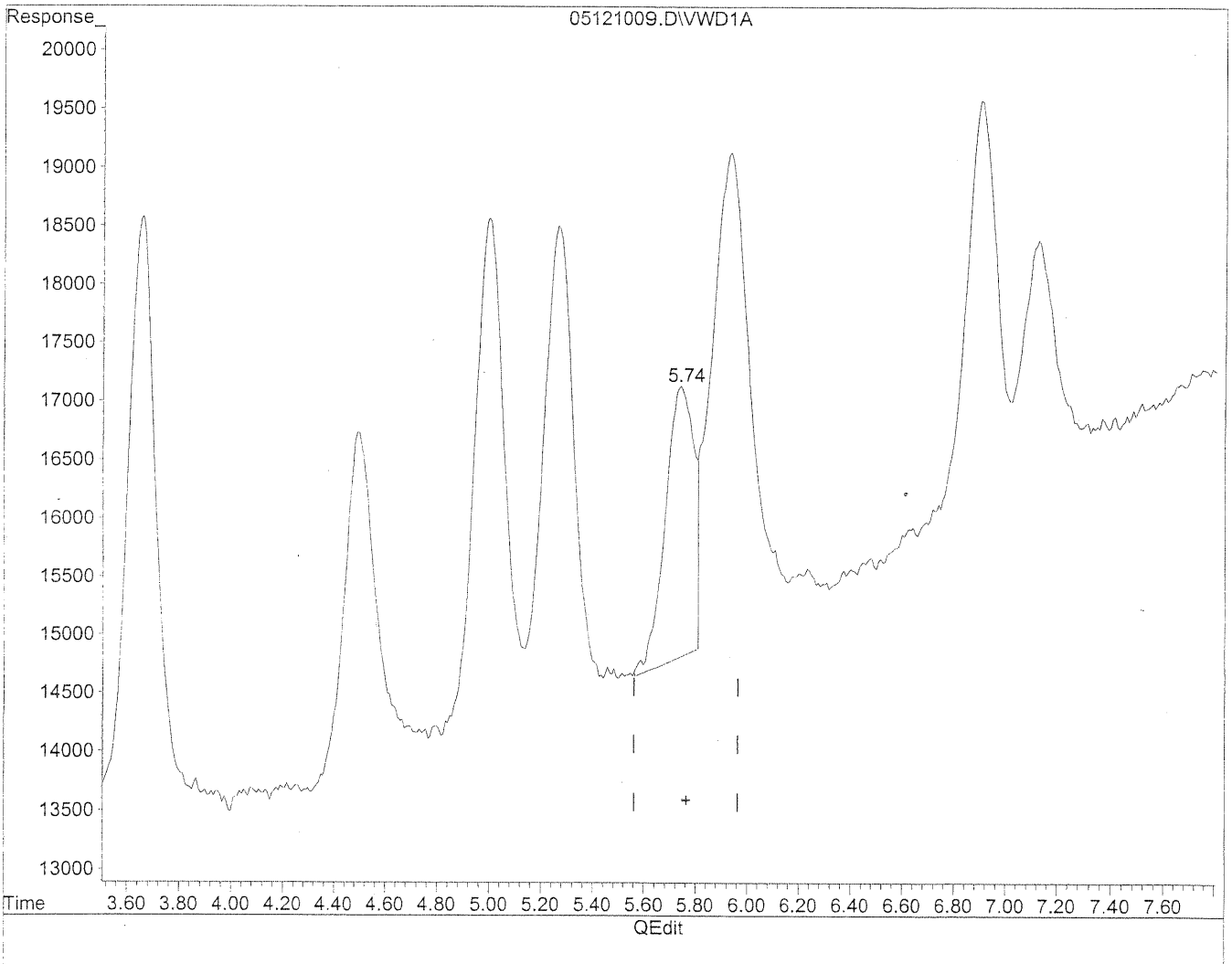
(+) = Expected Retention Time

05121009.D TO110510.M Thu May 13 11:16:24 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:15:00 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.74min 74.960ng/ml m

response 187057

5/19/10

5/13/10

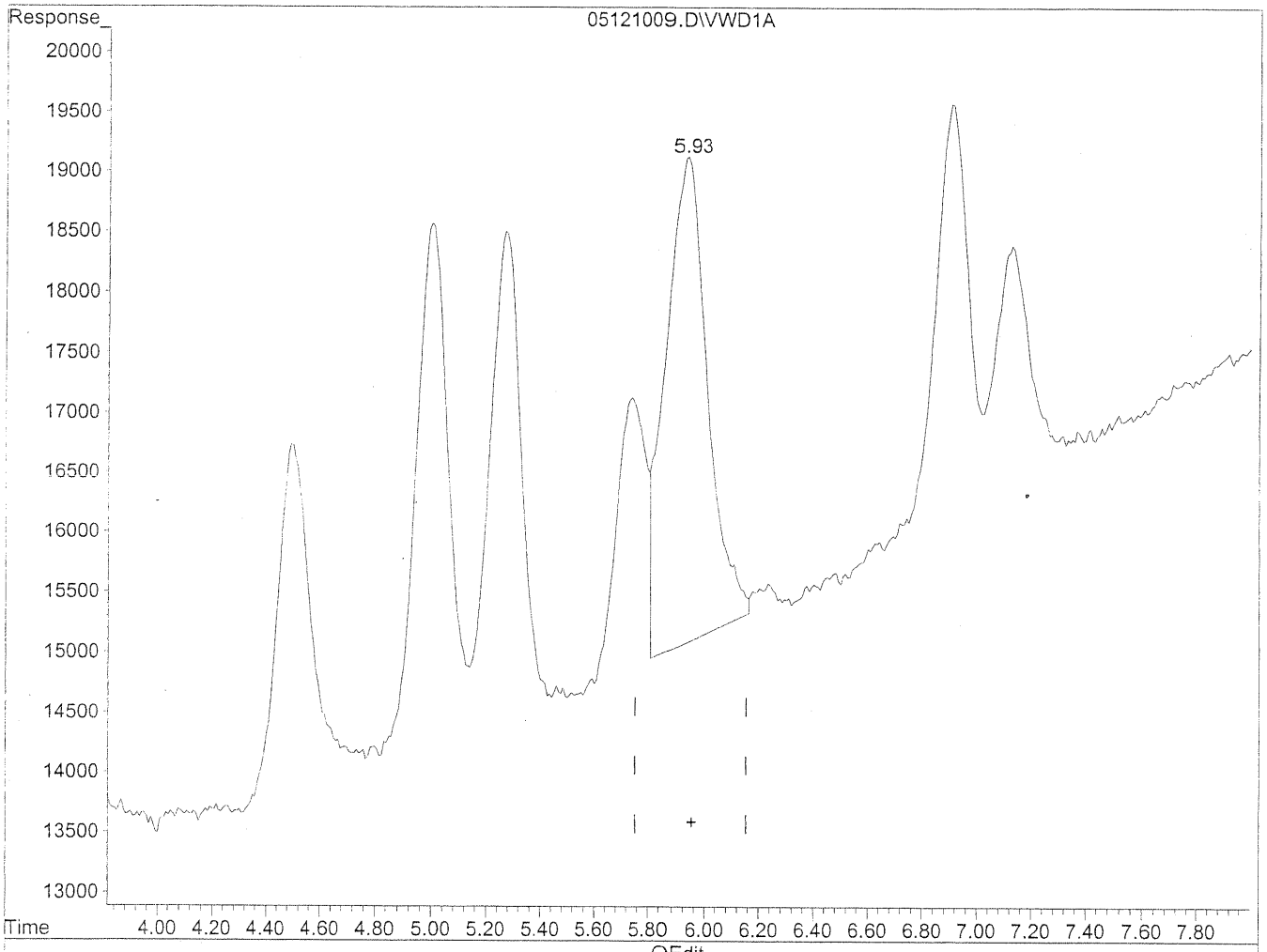
(+) = Expected Retention Time

05121009.D TO110510.M Thu May 13 11:16:31 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:15:00 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

5.93min 196.892ng/ml

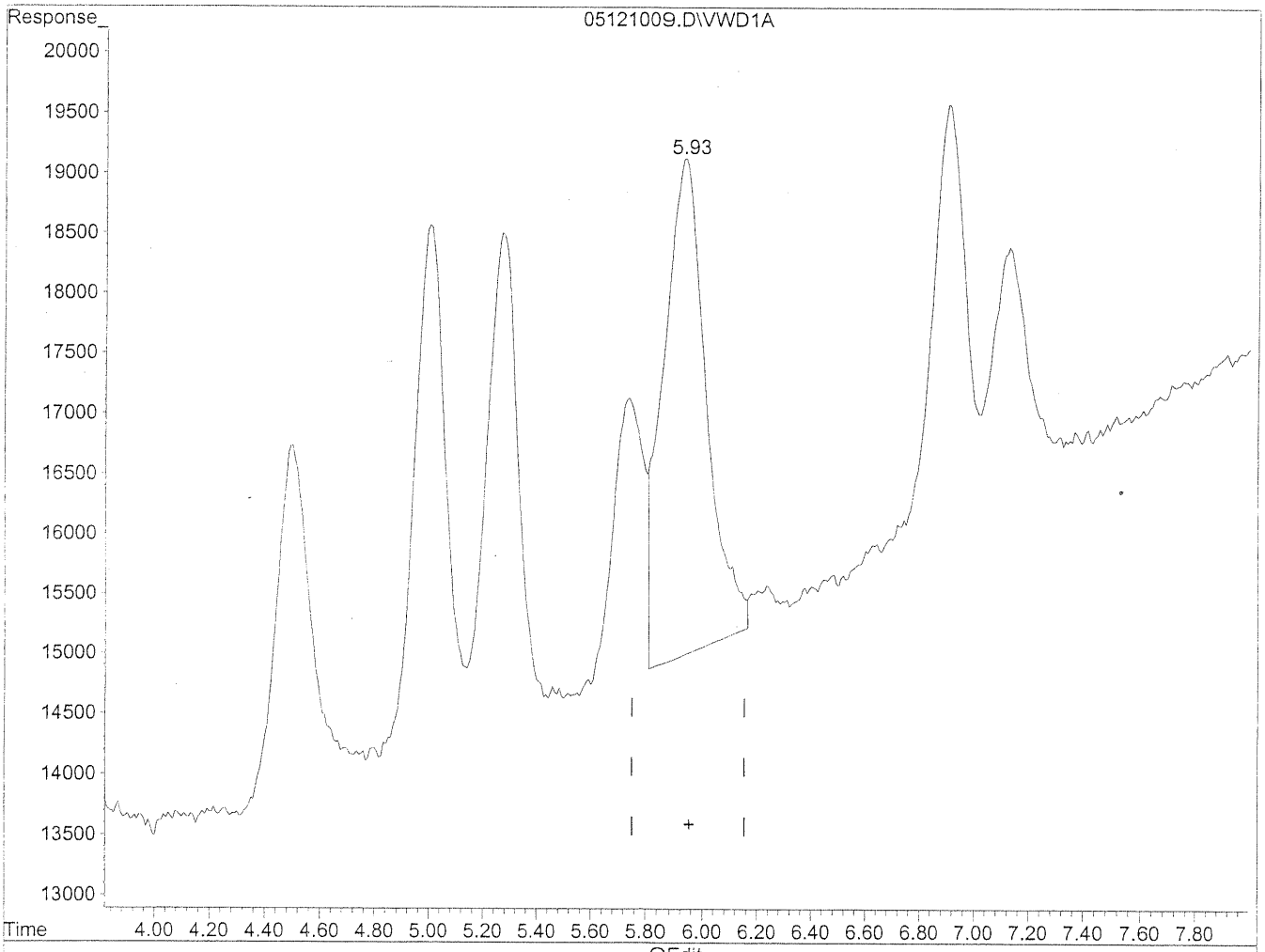
response 419515

(+) = Expected Retention Time

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:15:00 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

5.93min 204.358ng/ml m

response 435423

HC 5/19/10

BV 5/13/10

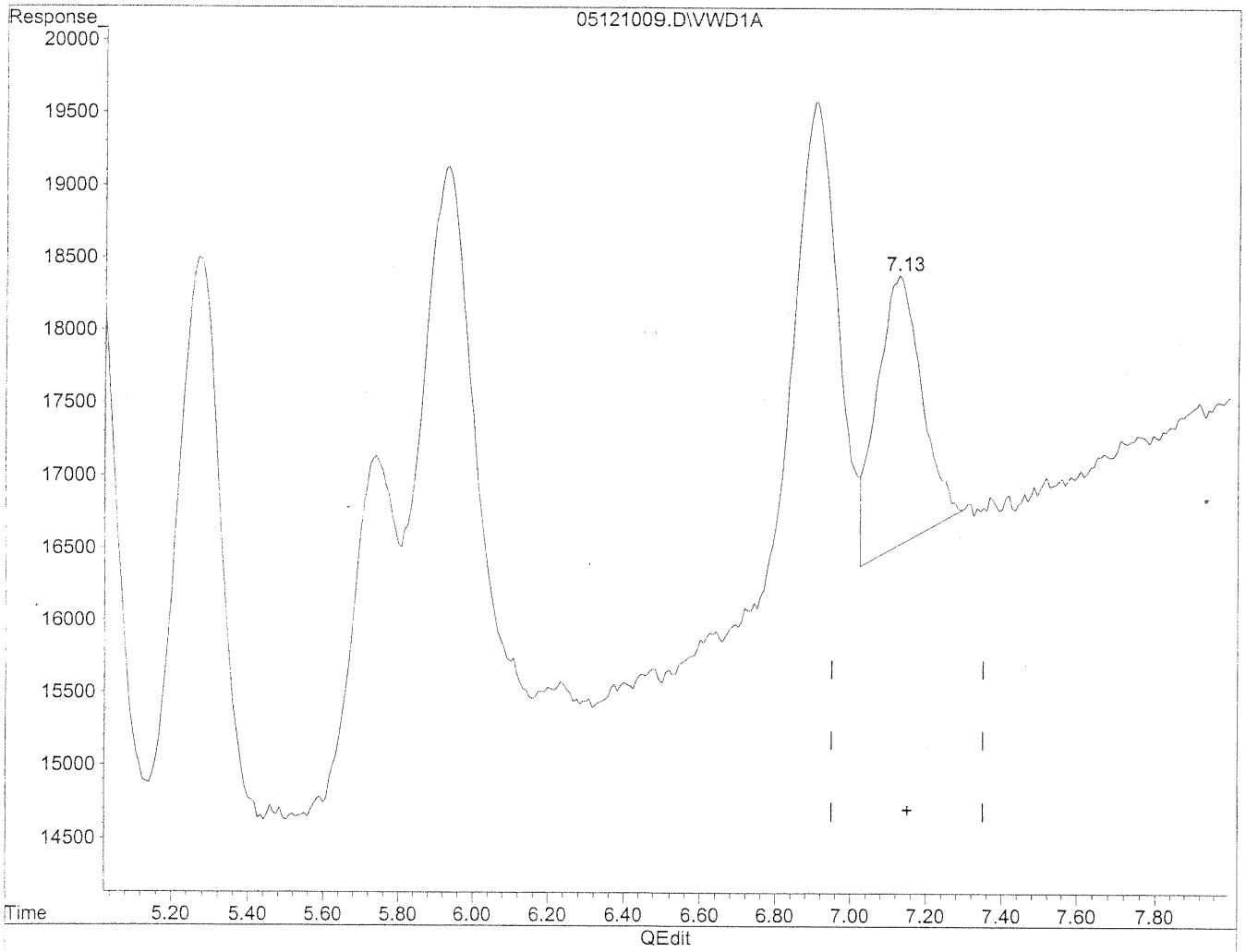
(+) = Expected Retention Time

05121009.D TO110510.M Thu May 13 11:16:44 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:15:00 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.13min 88.831ng/ml

response 153579

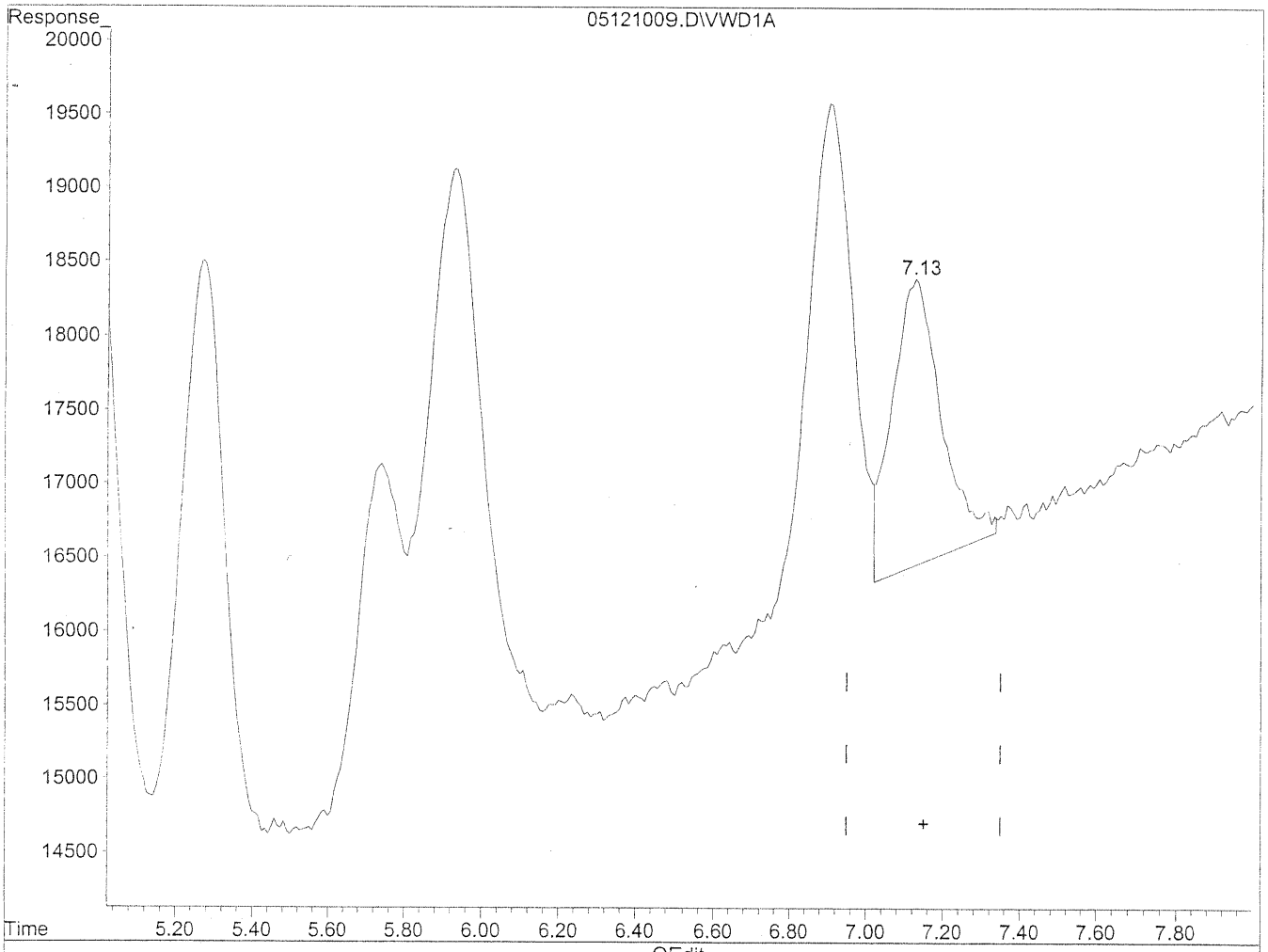
(+) = Expected Retention Time

05121009.D TO110510.M Thu May 13 11:16:53 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121009.D Vial: 127
Acq On : 12-May-2010, 13:40 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:34 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:15:00 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.13min 100.053ng/ml m

response 172979

HC 5-14-10

(+) = Expected Retention Time

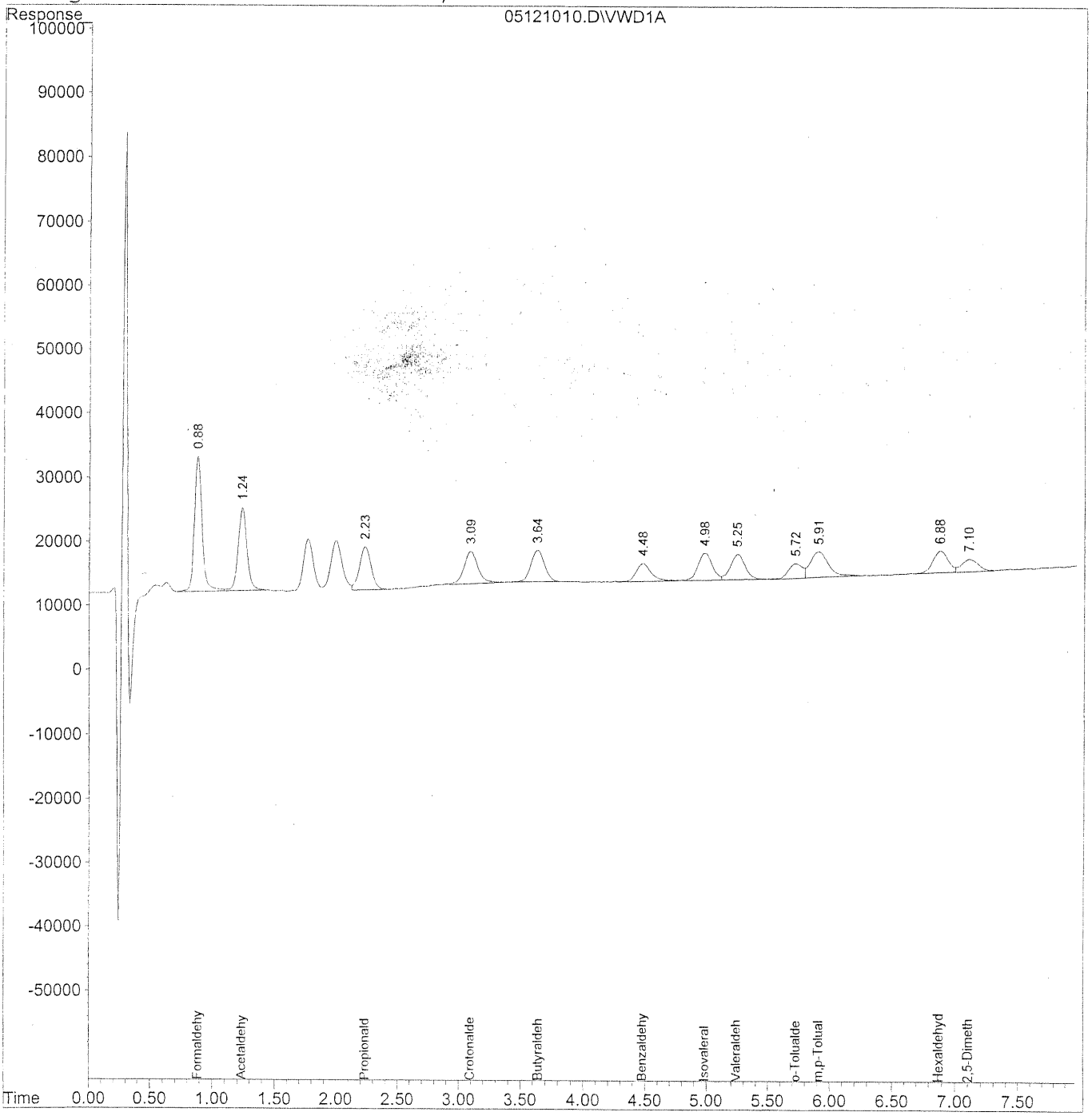
05121009.D TO110510.M Thu May 13 11:17:02 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:18 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:18 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

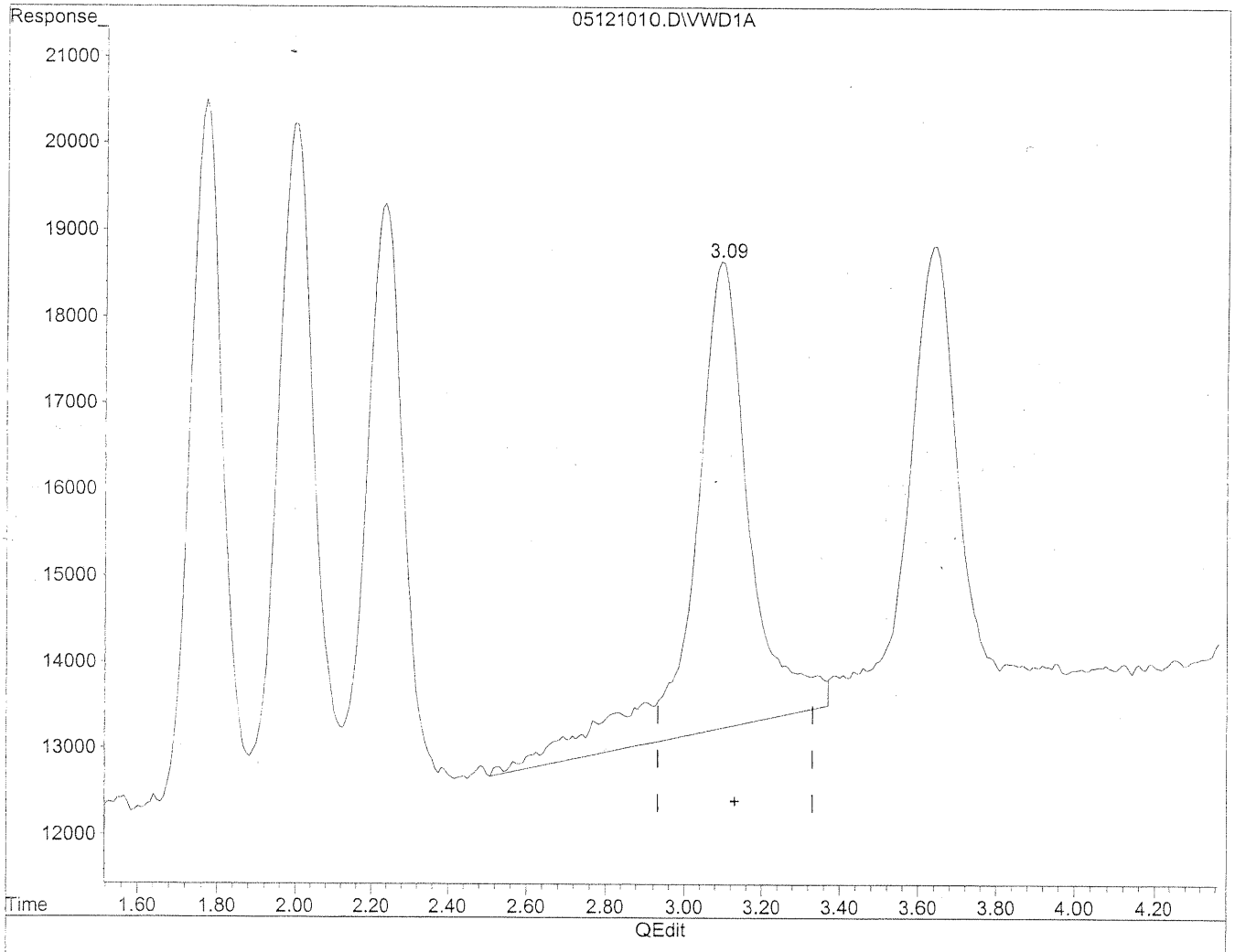
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	917821	99.983	ng/ml
2)	Acetaldehyde	1.24	647445	98.075	ng/ml
3)	Propionaldehyde	2.24	451764	95.670	ng/ml
4)	Crotonaldehyde	3.09	401686	99.051	ng/mlm
5)	Butyraldehyde	3.64	372831	92.213	ng/mlm
6)	Benzaldehyde	4.48	242805	91.850	ng/mlm
7)	Isovaleraldehyde	4.98	341552	94.492	ng/mlm
8)	Valeraldehyde	5.25	328463	103.109	ng/ml
9)	o-Tolualdehyde	5.72	186724	78.415	ng/mlm
10)	m,p-Tolualdehyde	5.91	413632	191.342	ng/ml
11)	Hexaldehyde	6.88	272471	87.985	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.10	179109	104.874	ng/mlm

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(4) Crotonaldehyde

3.10min 136.431ng/ml

response 553277

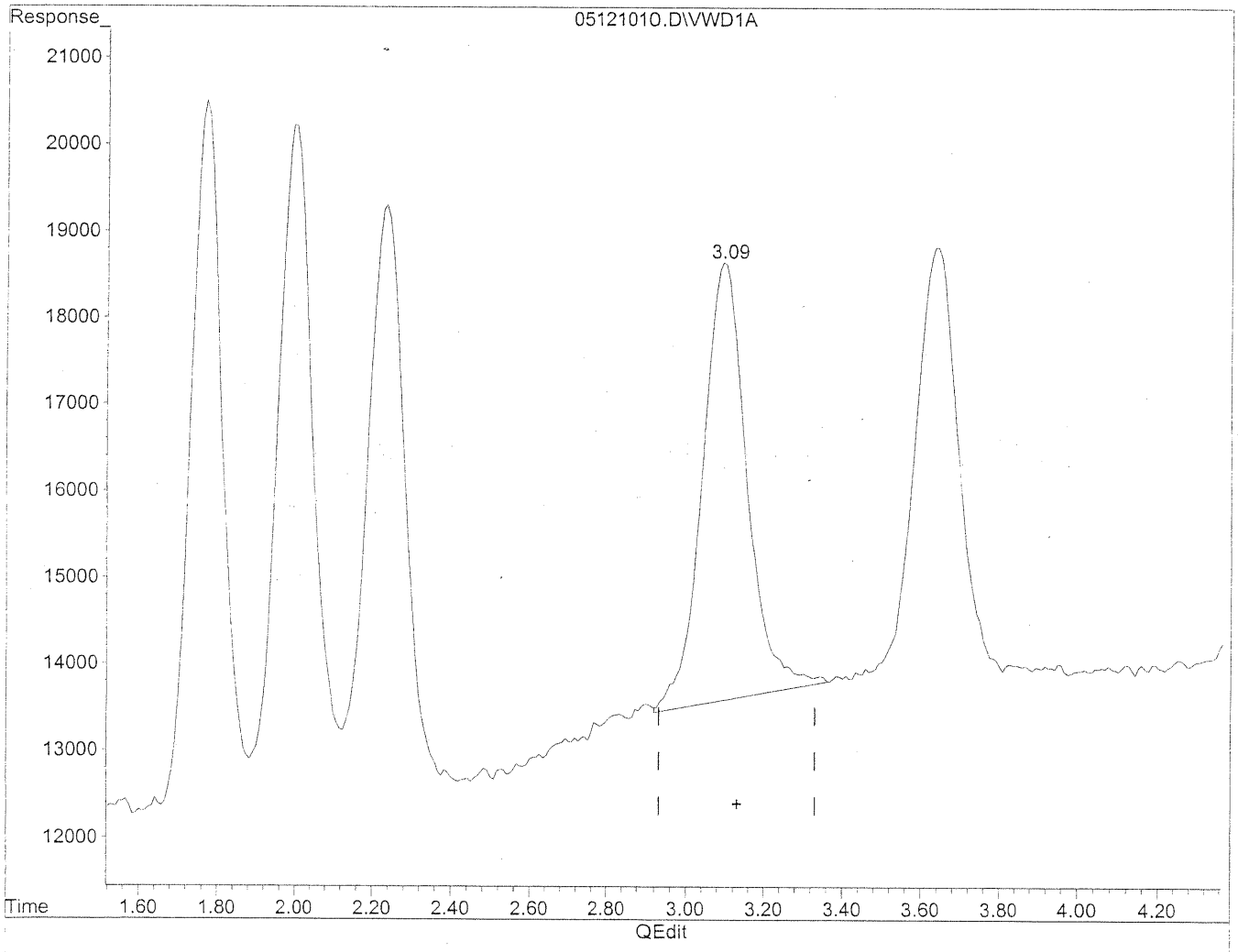
(+) = Expected Retention Time

05121010.D TO110510.M Thu May 13 10:36:20 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(4) Crotonaldehyde

3.09min 99.051ng/ml m

response 401686

JK 5/19/10

TO mm 5/13/10

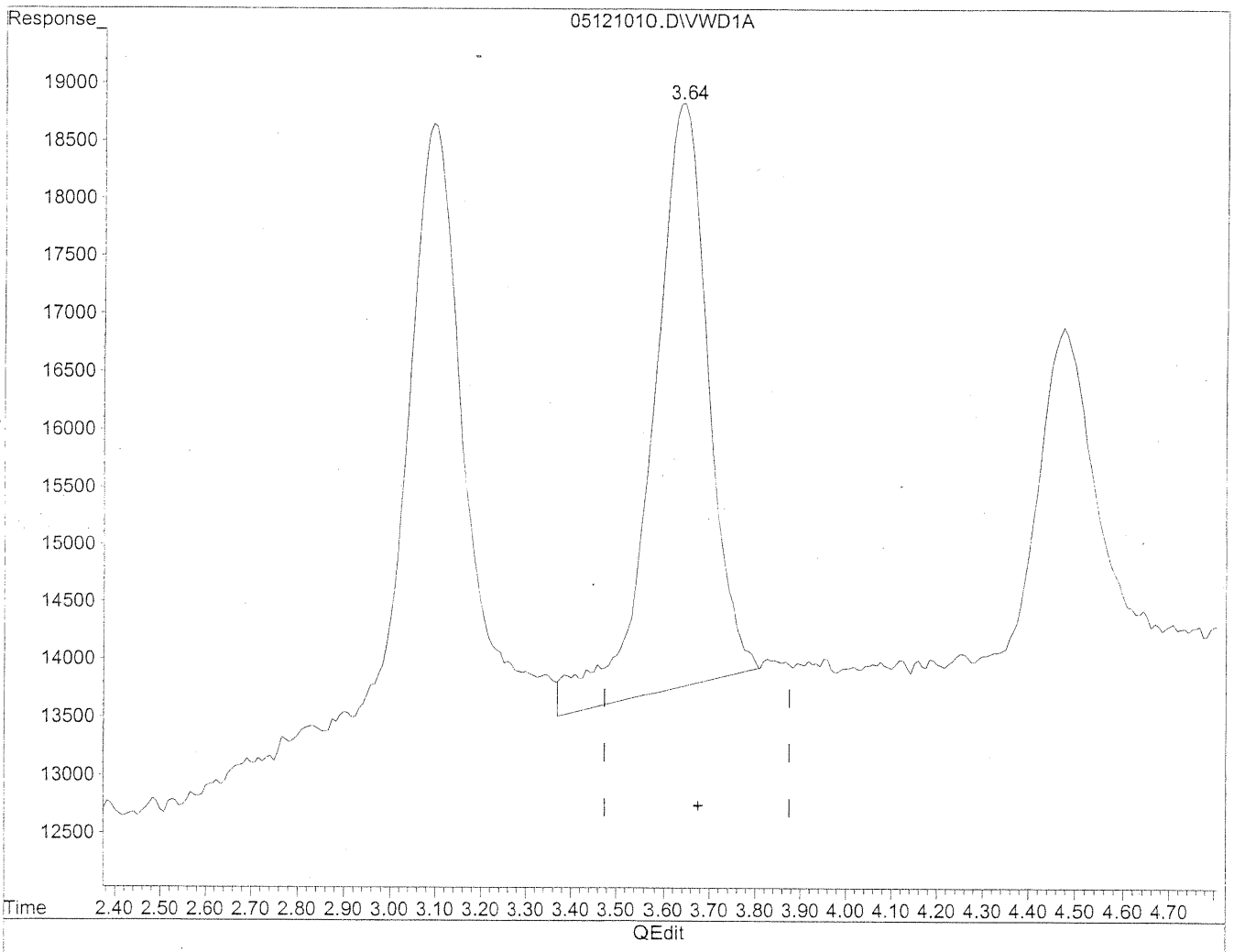
(+) = Expected Retention Time

05121010.D TO110510.M Thu May 13 10:36:25 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.64min 103.815ng/ml

response 419740

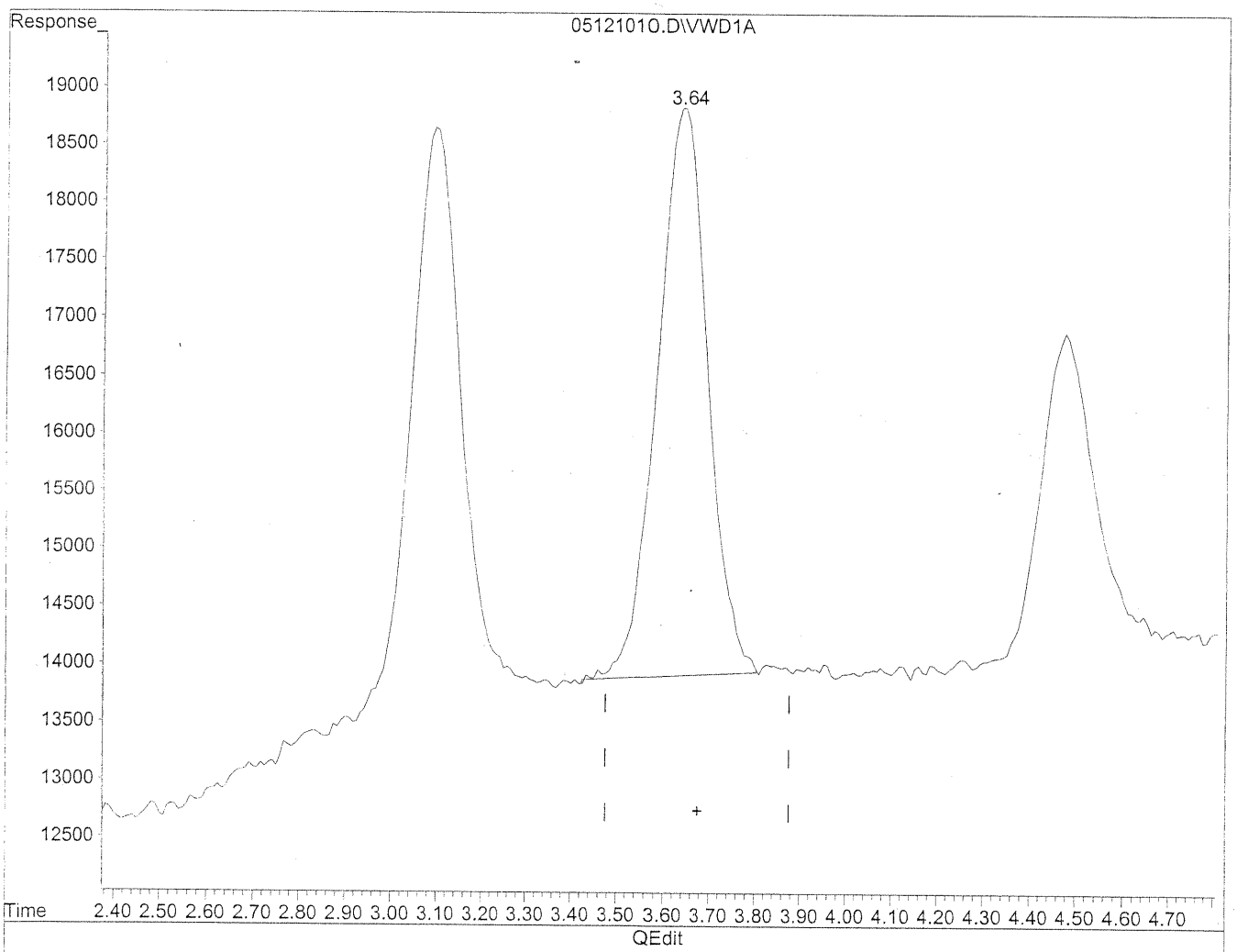
(+) = Expected Retention Time

05121010.D TO110510.M Thu May 13 10:36:28 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.64min 92.213ng/ml m

response 372831

5/13/10

5/13/10

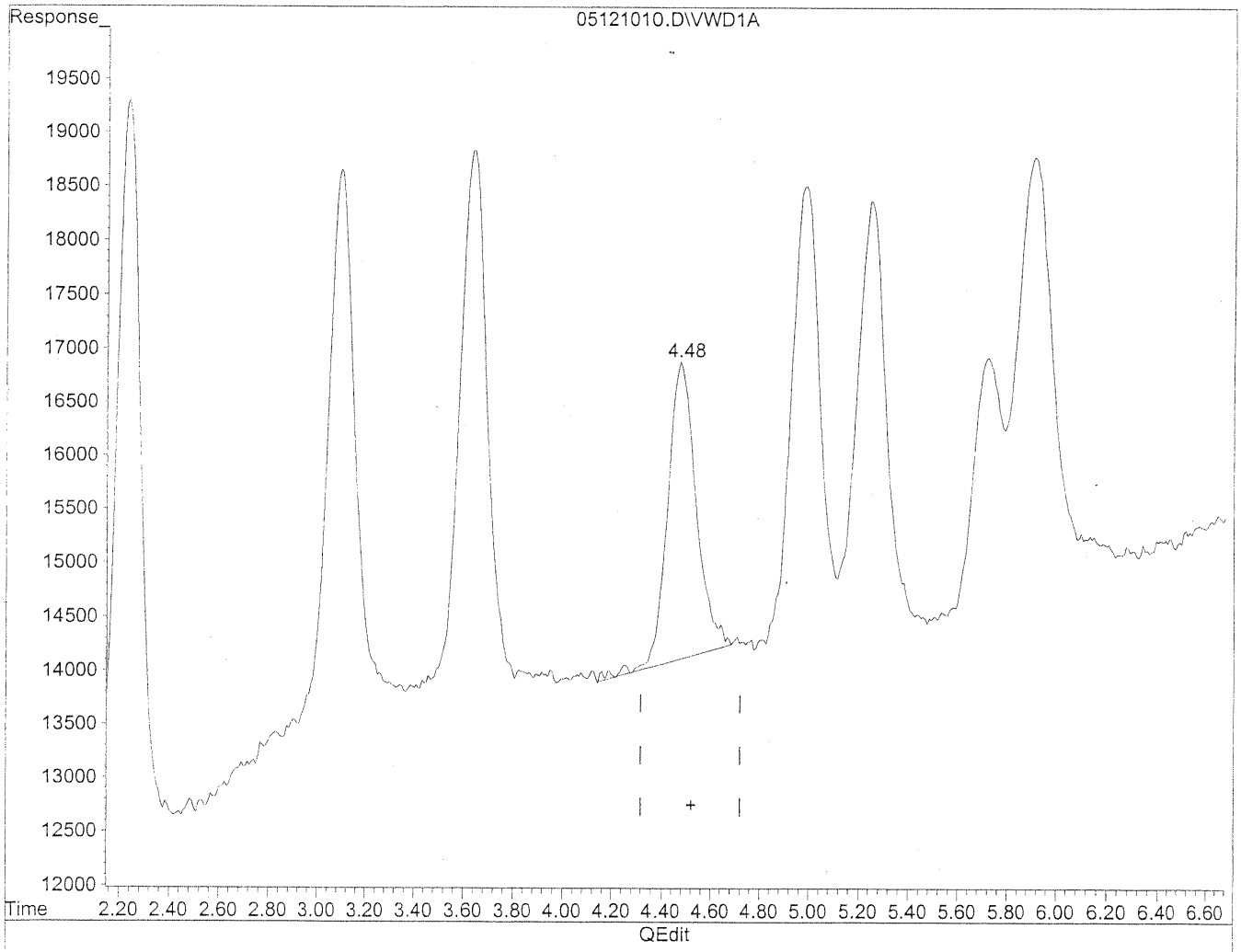
(+) = Expected Retention Time

05121010.D TO110510.M Thu May 13 10:36:32 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:17:16 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.48min 84.730ng/ml

response 223983

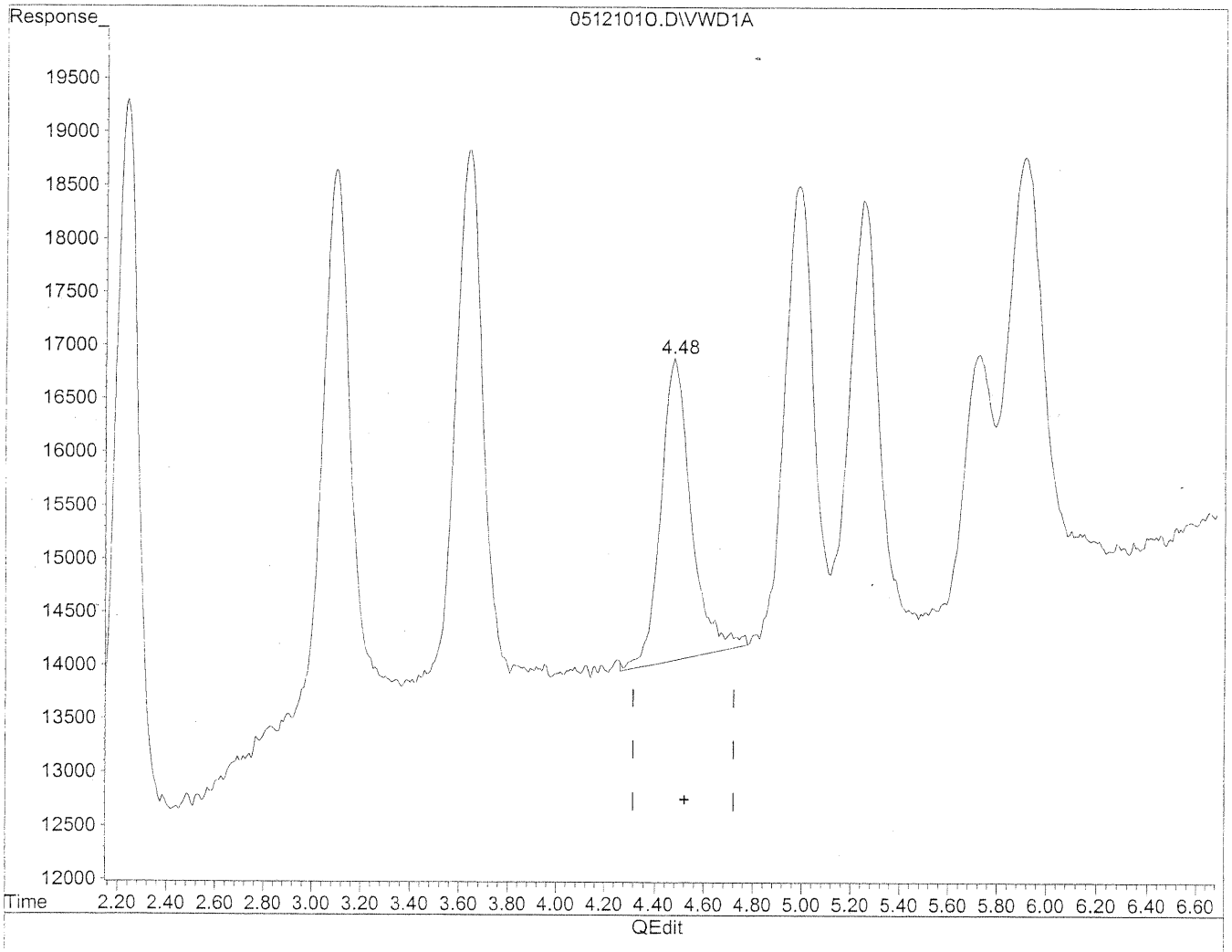
(+) = Expected Retention Time

05121010.D TO110510.M Thu May 13 11:17:38 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:17:16 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.48min 91.850ng/ml m

response 242805

5/13/10

5/13/10

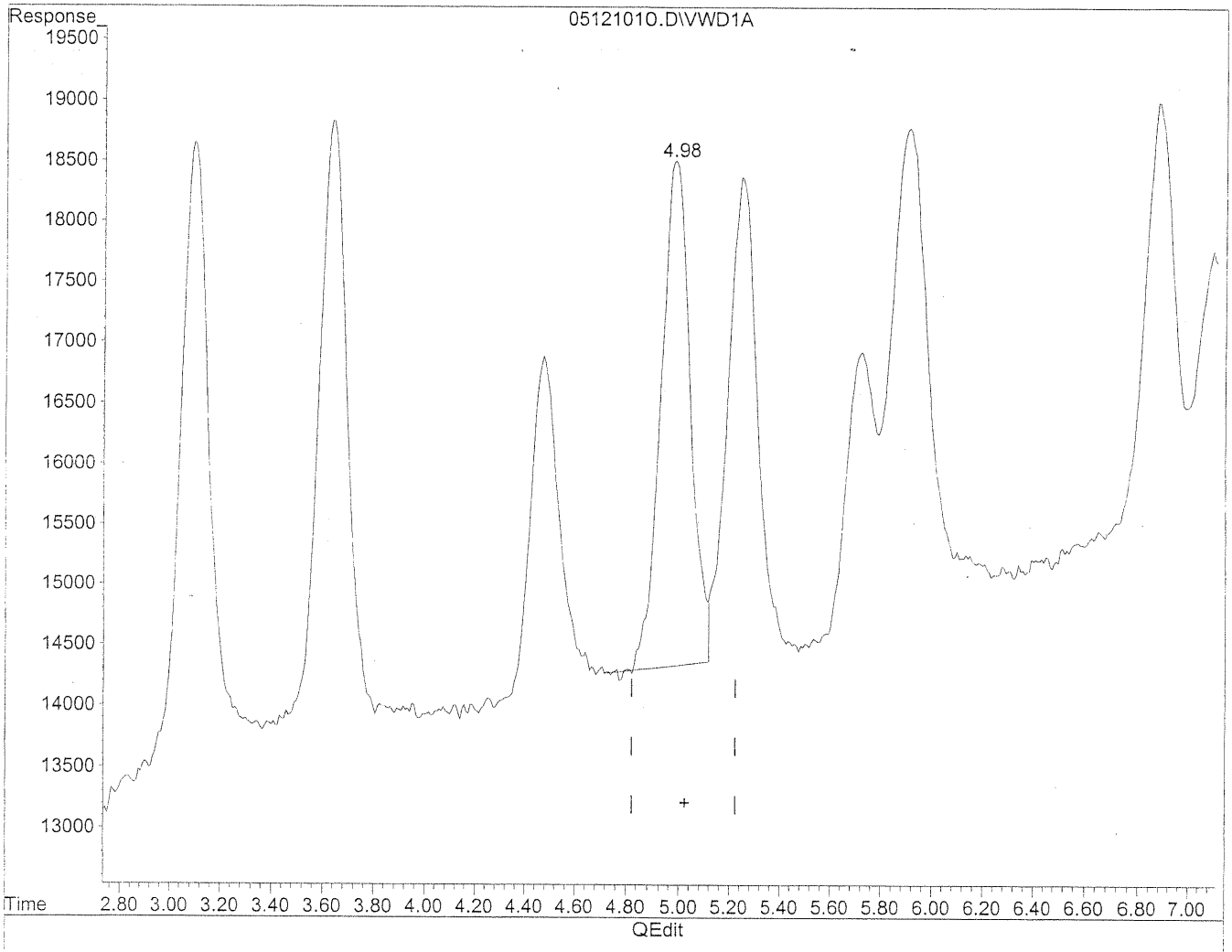
(+) = Expected Retention Time

05121010.D TO110510.M Thu May 13 11:17:44 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.98min 91.641ng/ml

response 331248

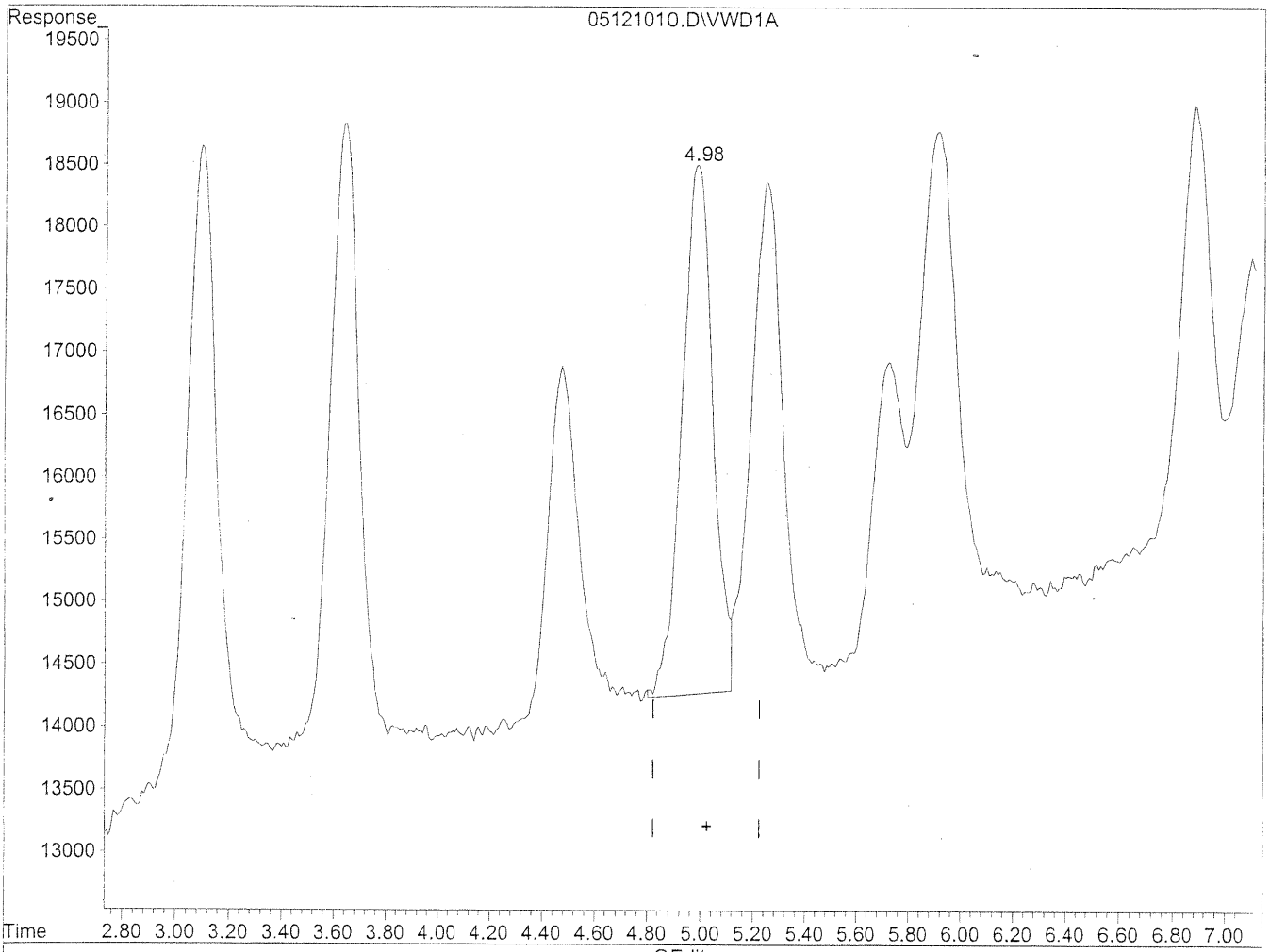
(+) = Expected Retention Time

05121010.D TO110510.M Thu May 13 10:36:40 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.98min 94.492ng/ml m

response 341552

HC 5/19/10

TL 5/13/10

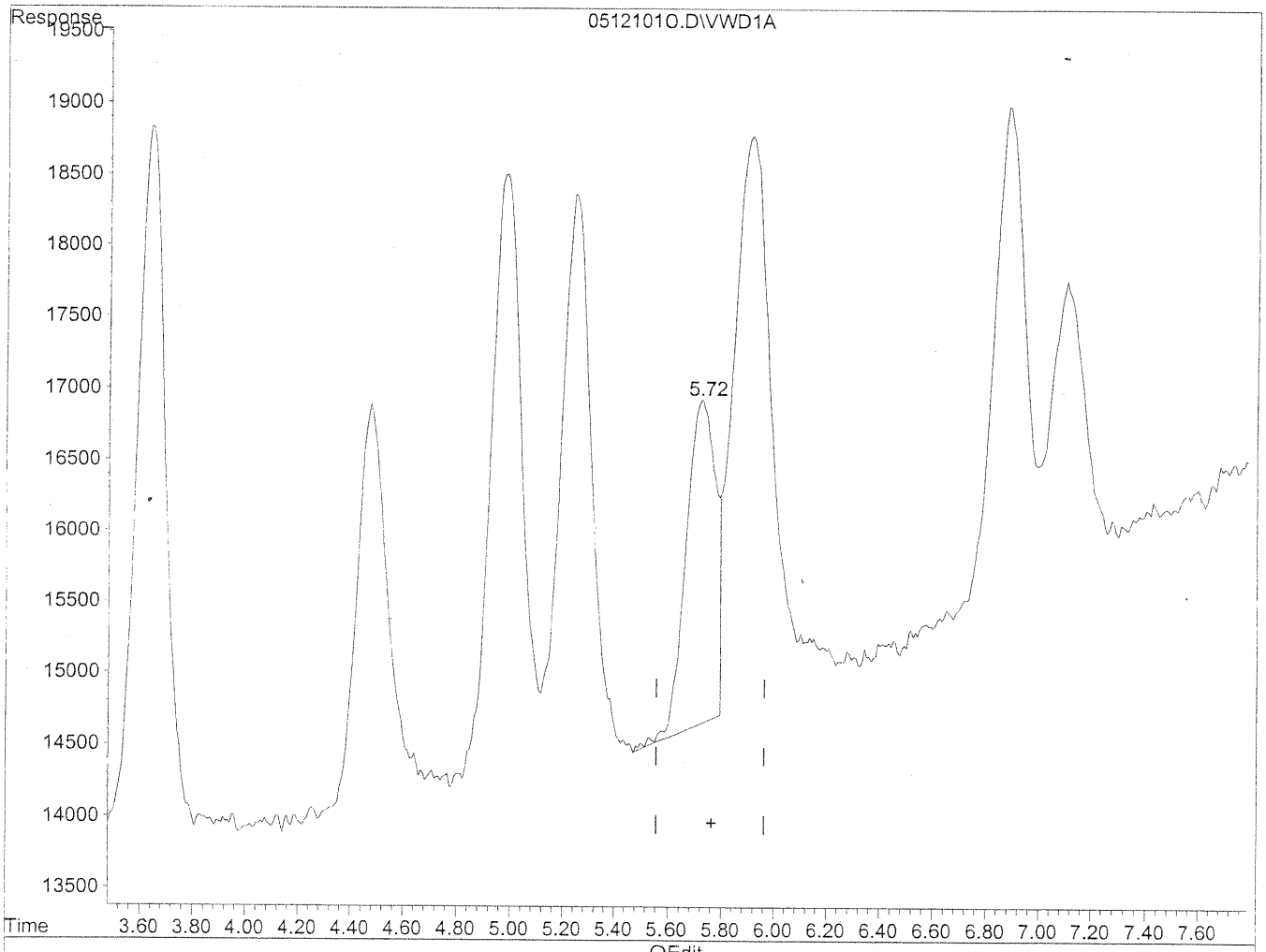
(+) = Expected Retention Time

05121010.D TO110510.M Thu May 13 10:36:44 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03O91009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:17:16 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.72min 72.909ng/ml

response 173613

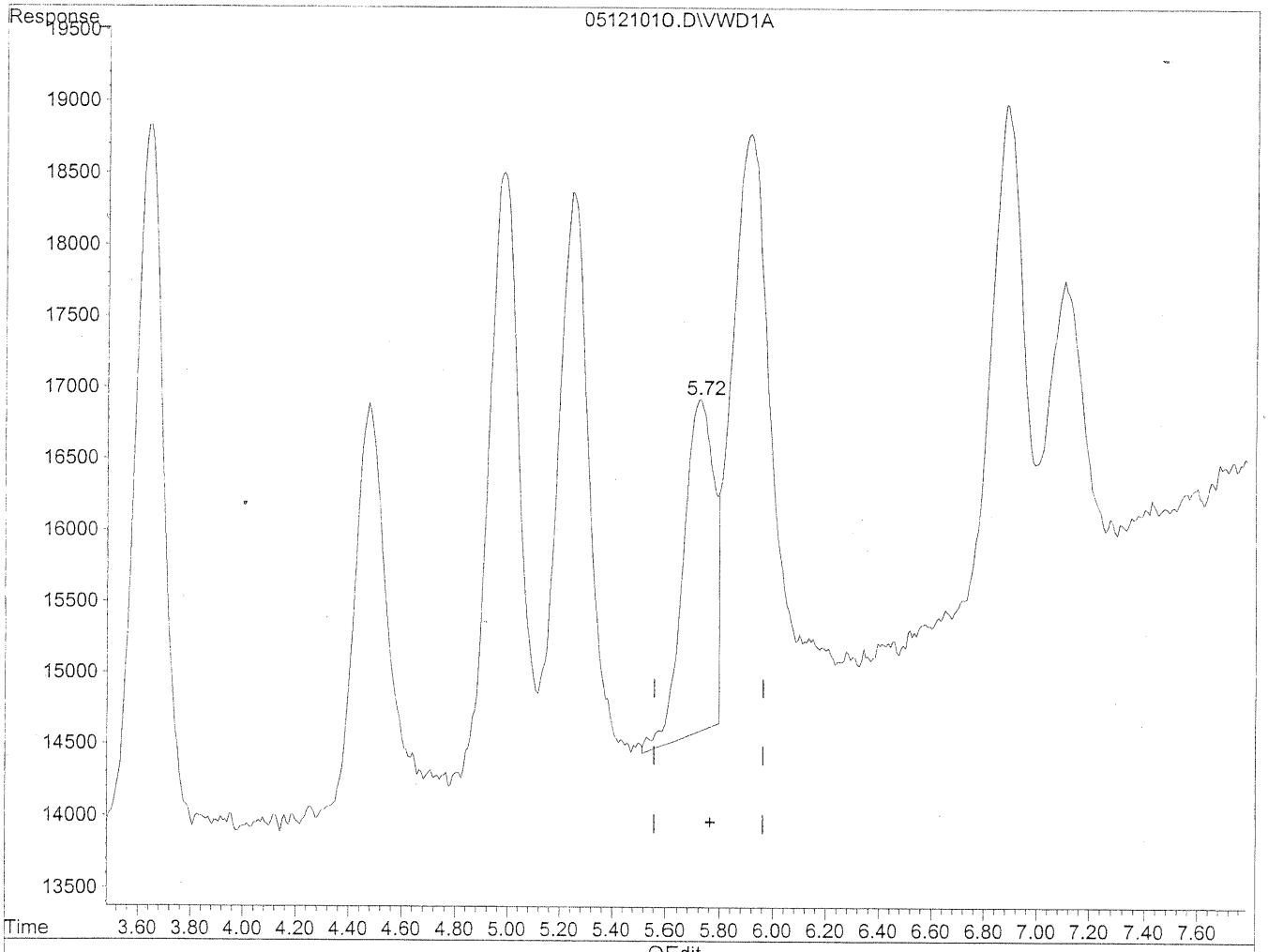
(+) = Expected Retention Time

05121010.D TO110510.M Thu May 13 11:17:50 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:17:16 2010
Response via : Multiple Level Calibration



QEdit

(9) o-Tolualdehyde

5.72min 78.415ng/ml m

response 186724

PK 5/19/10

PK 5/13/10

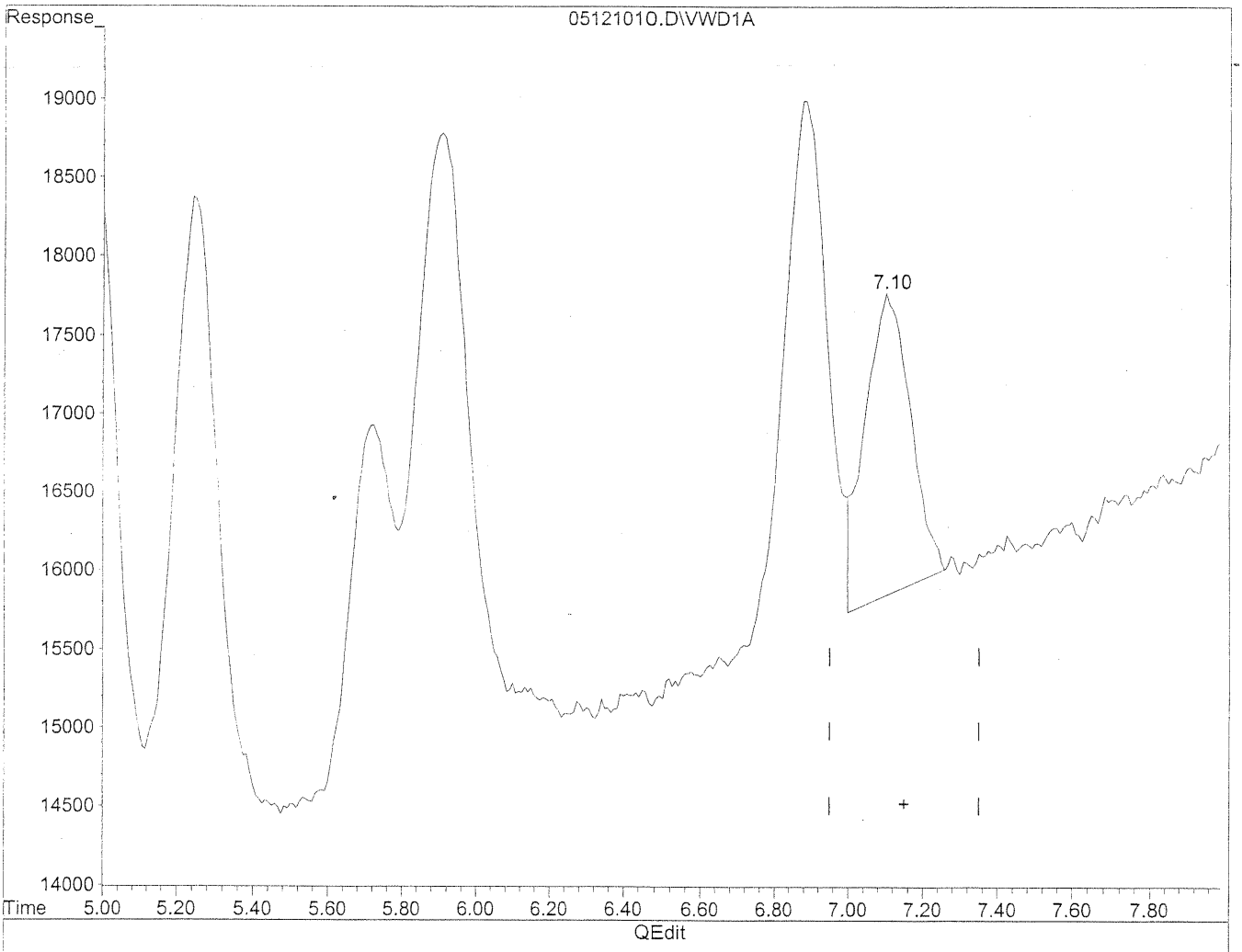
(+) = Expected Retention Time

05121010.D TO110510.M Thu May 13 11:18:00 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:17:16 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.10min 97.167ng/ml

response 165947

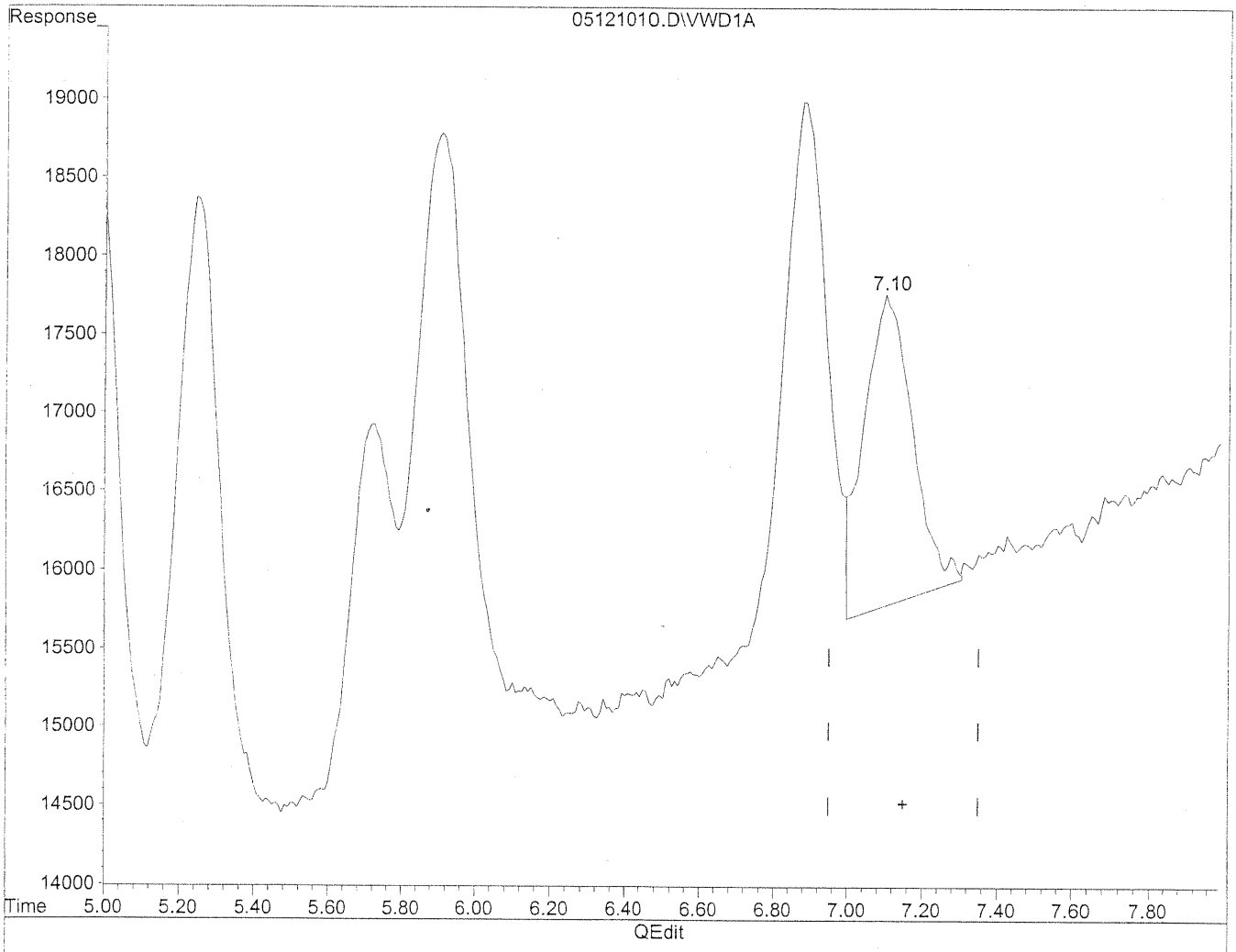
(+) = Expected Retention Time

05121010.D TO110510.M Thu May 13 11:18:13 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121010.D Vial: 127
Acq On : 12-May-2010, 13:50 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:17:16 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.10min 104.874ng/ml m

response 179109

5/19/10

5/13/10

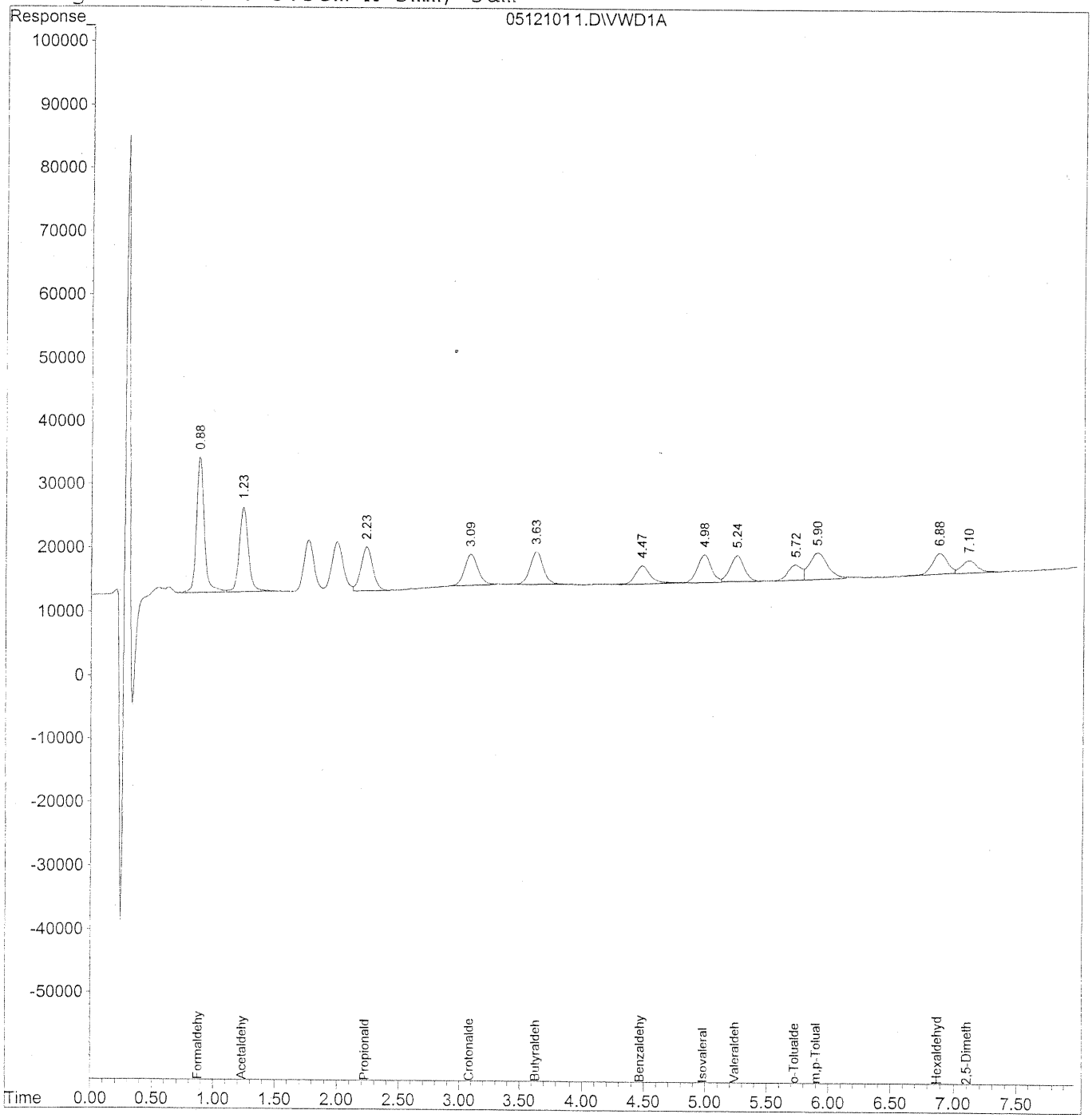
(+) = Expected Retention Time
05121010.D TO110510.M Thu May 13 11:18:20 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:38 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:38 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

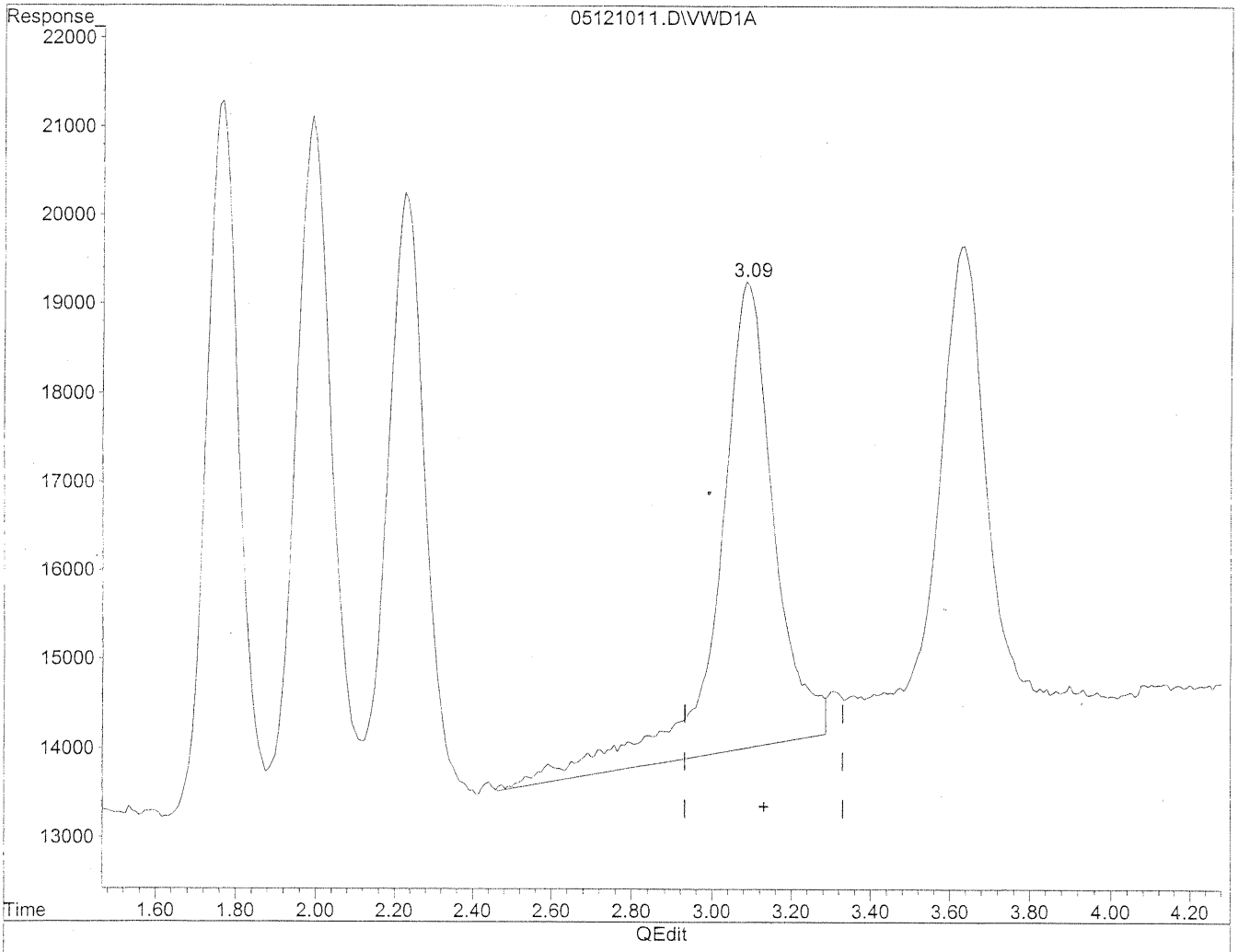
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	951325	103.772	ng/ml
2)	Acetaldehyde	1.24	670834	101.776	ng/ml
3)	Propionaldehyde	2.23	452686	95.793	ng/ml
4)	Crotonaldehyde	3.09	375949	92.828	ng/mlm
5)	Butyraldehyde	3.63	388508	96.604	ng/mlm
6)	Benzaldehyde	4.47	243134	92.769	ng/mlm
7)	Isovaleraldehyde	4.98	348203	96.526	ng/mlm
8)	Valeraldehyde	5.25	324388	101.829	ng/ml
9)	o-Tolualdehyde	5.72	186168	78.003	ng/ml
10)	m,p-Tolualdehyde	5.90	425466	197.040	ng/ml
11)	Hexaldehyde	6.88	265000	85.649	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.10	171438	99.780	ng/mlm

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:37 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(4) Crotonaldehyde

3.09min 125.720ng/ml

response 509157

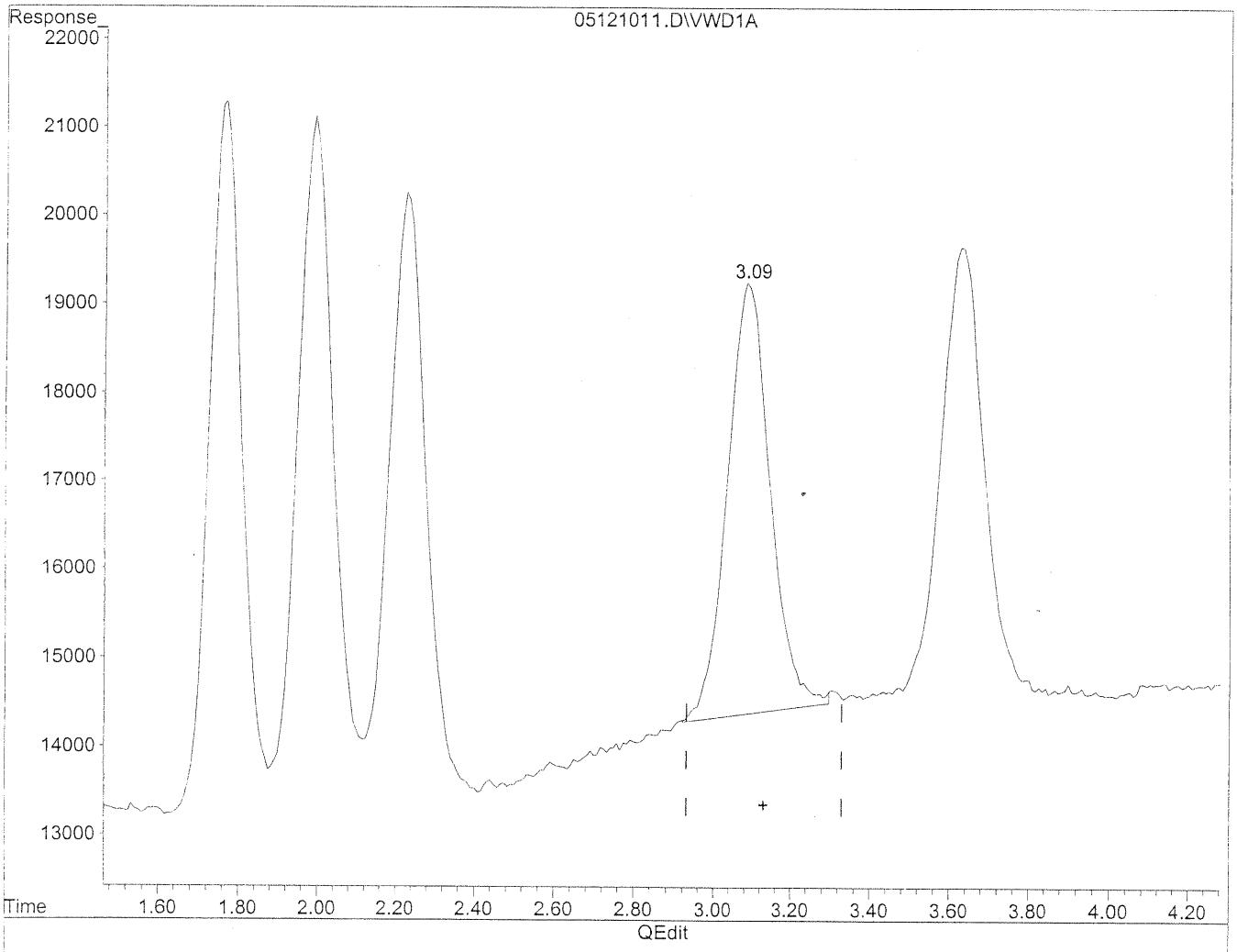
(+) = Expected Retention Time

05121011.D TO110510.M Thu May 13 10:37:16 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:37 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(4) Crotonaldehyde

3.09min 92.828ng/ml m

response 375949

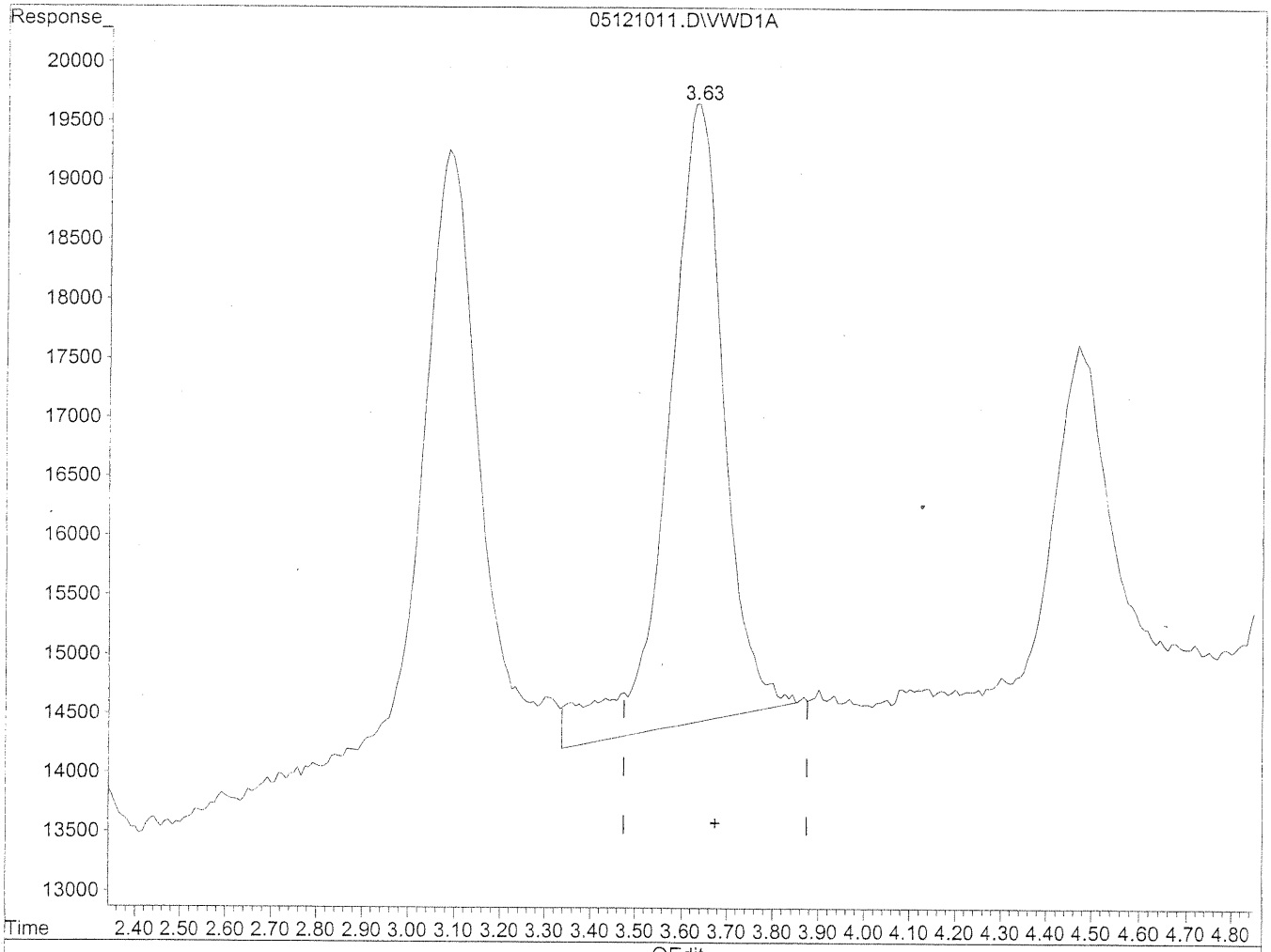
(+) = Expected Retention Time

05121011.D TO110510.M Thu May 13 10:37:20 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:37 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.63min 109.814ng/ml

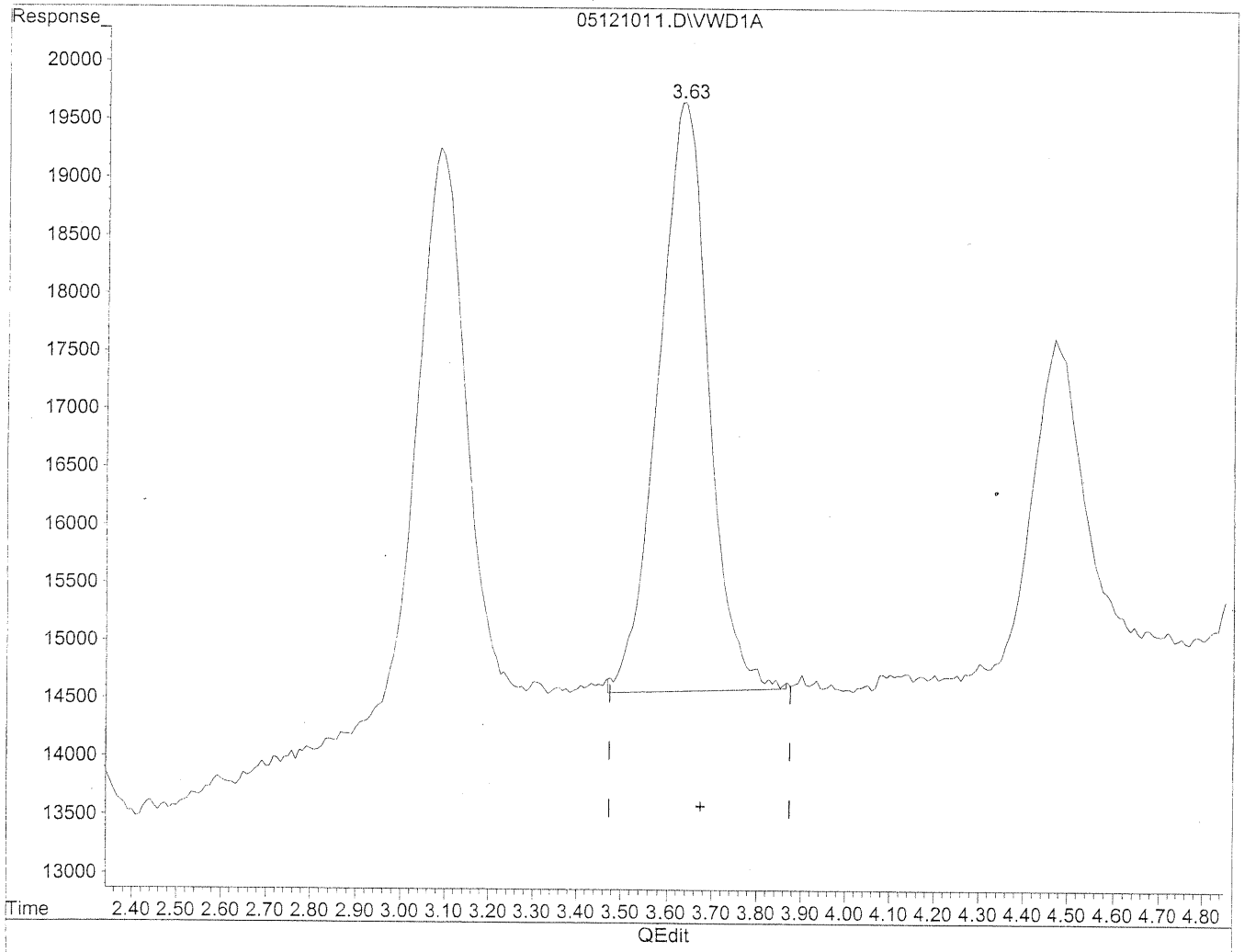
response 441632

(+) = Expected Retention Time
05121011.D TO110510.M Thu May 13 10:37:23 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:37 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



QEdit

(5) Butyraldehyde

3.63min 96.604ng/ml m

response 388508

MC 5/10/10

RV MO 5/13/10

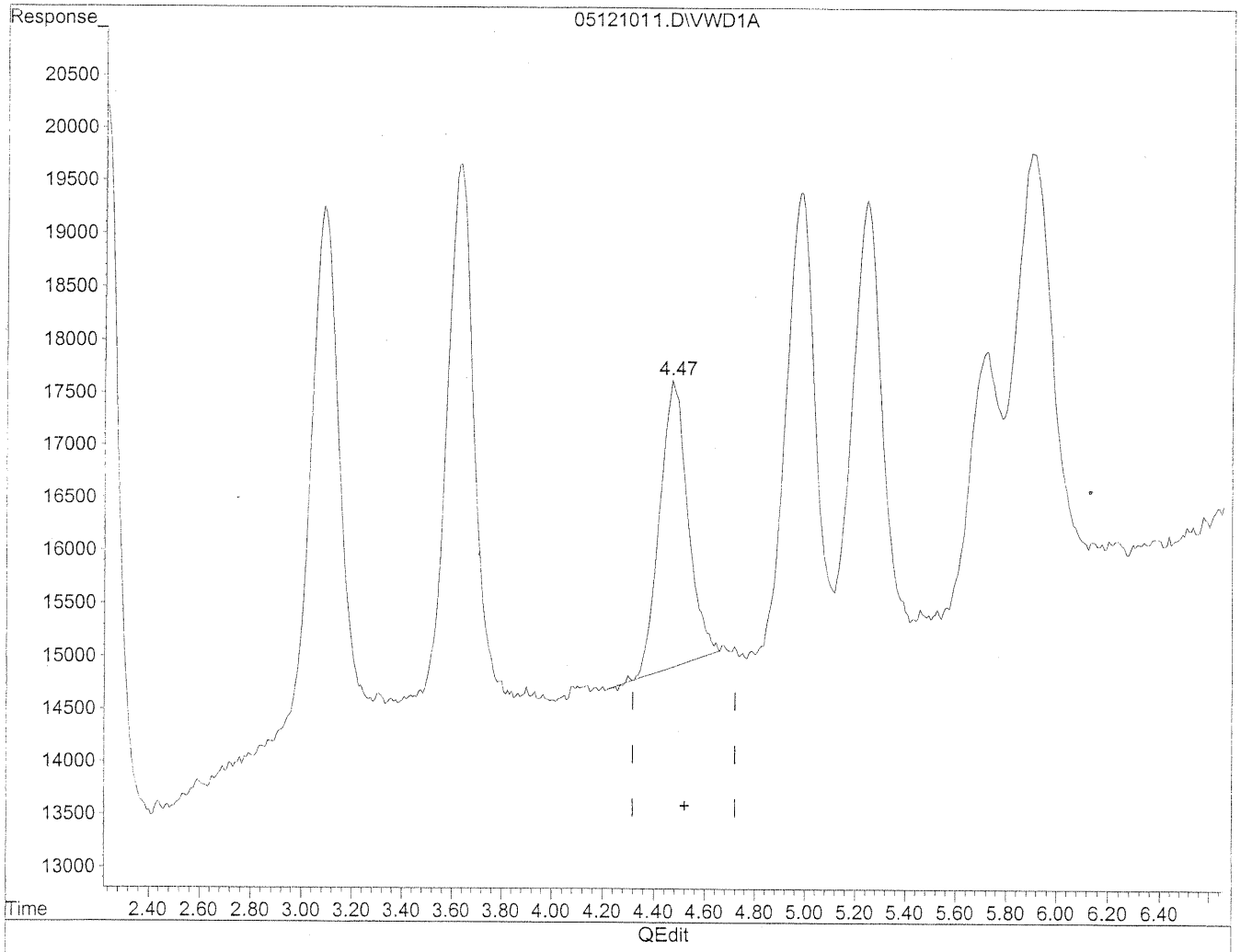
(+) = Expected Retention Time

05121011.D TO110510.M Thu May 13 10:37:27 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:37 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.47min 78.712ng/ml

response 206293

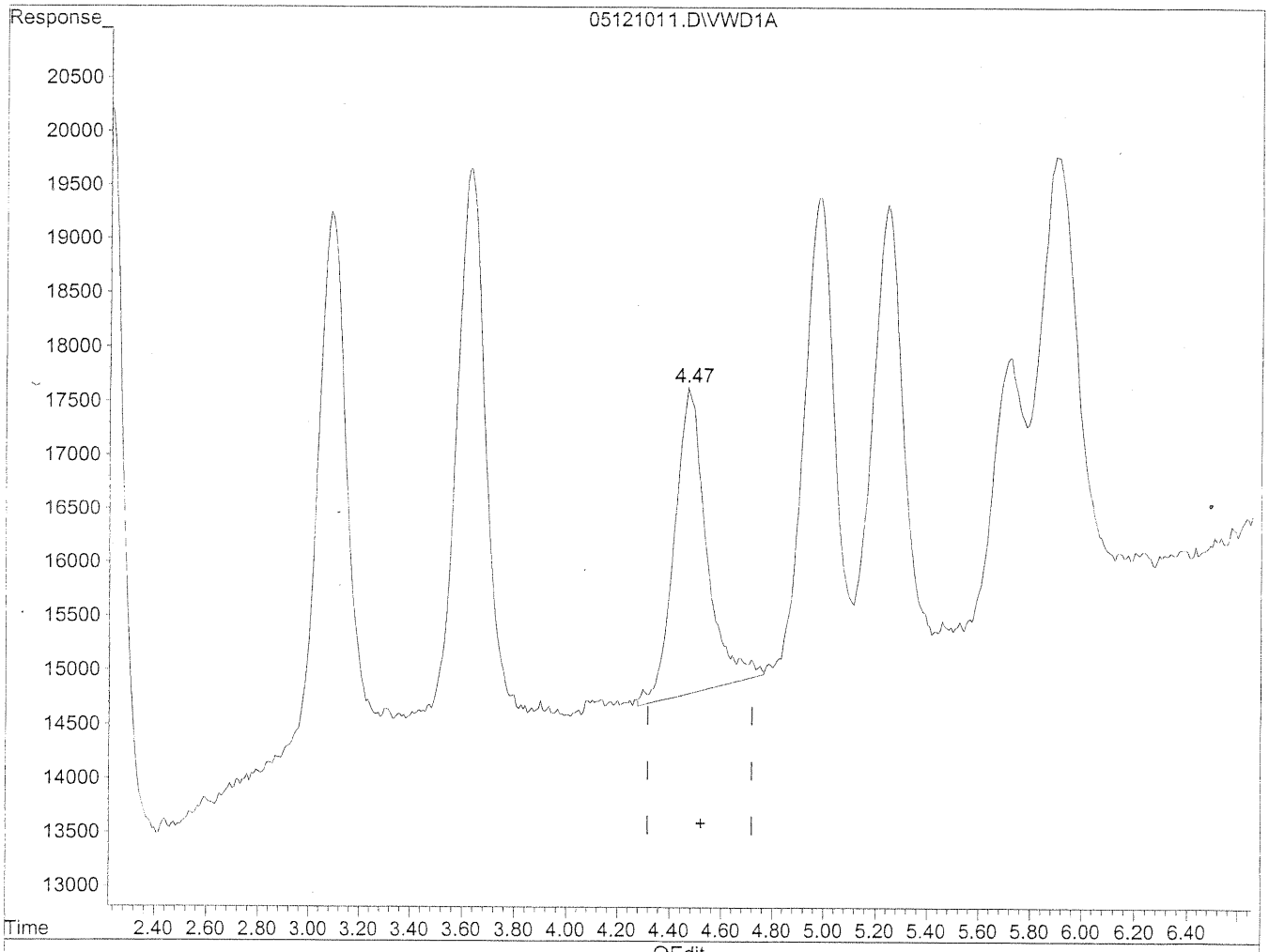
(+) = Expected Retention Time

05121011.D TO110510.M Thu May 13 10:37:35 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:37 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.47min 92.769ng/ml m

response 243134

5/13/10

5/13/10

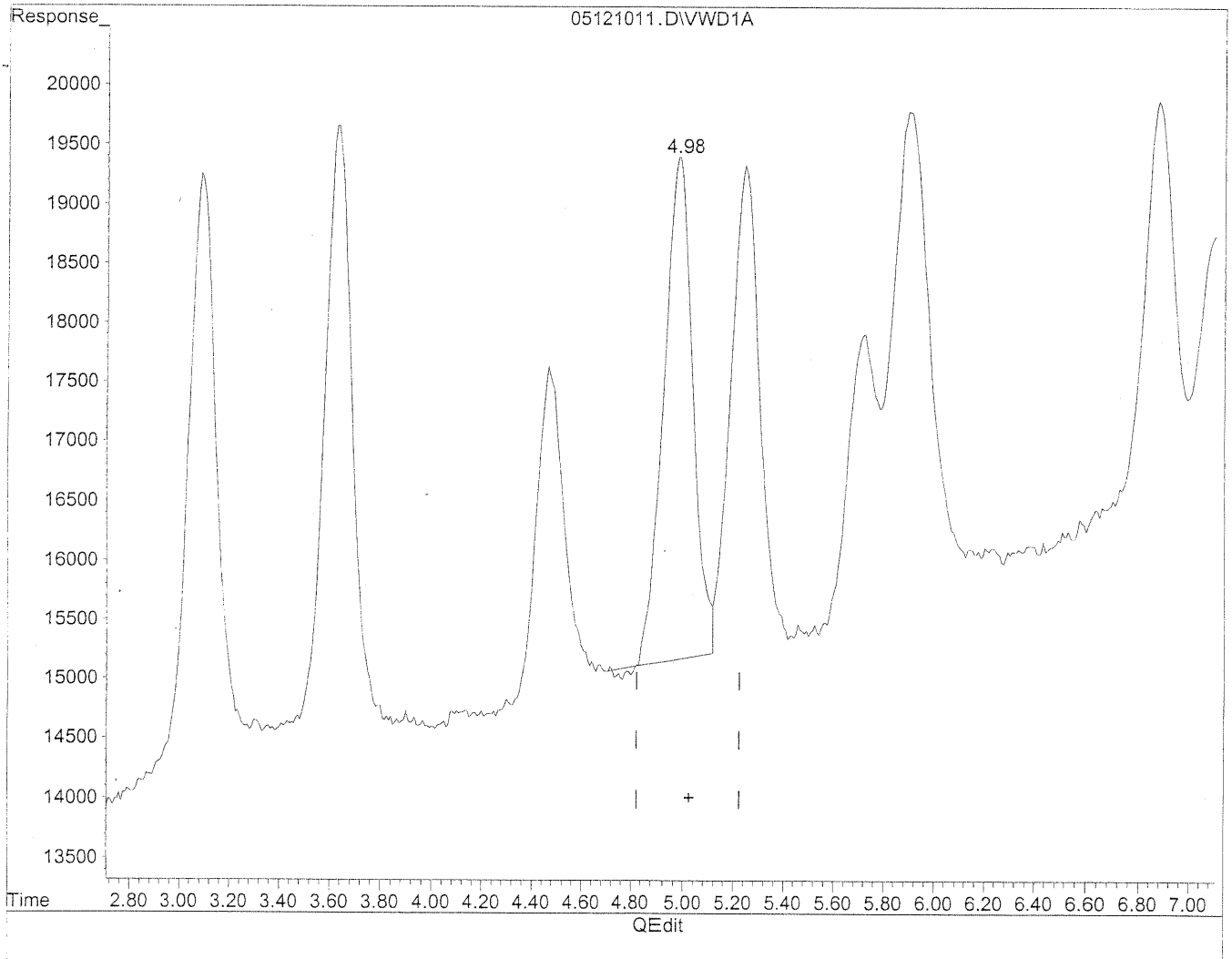
(+) = Expected Retention Time

05121011.D TO110510.M Thu May 13 10:37:41 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:37 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.98min 90.625ng/ml

response 326919

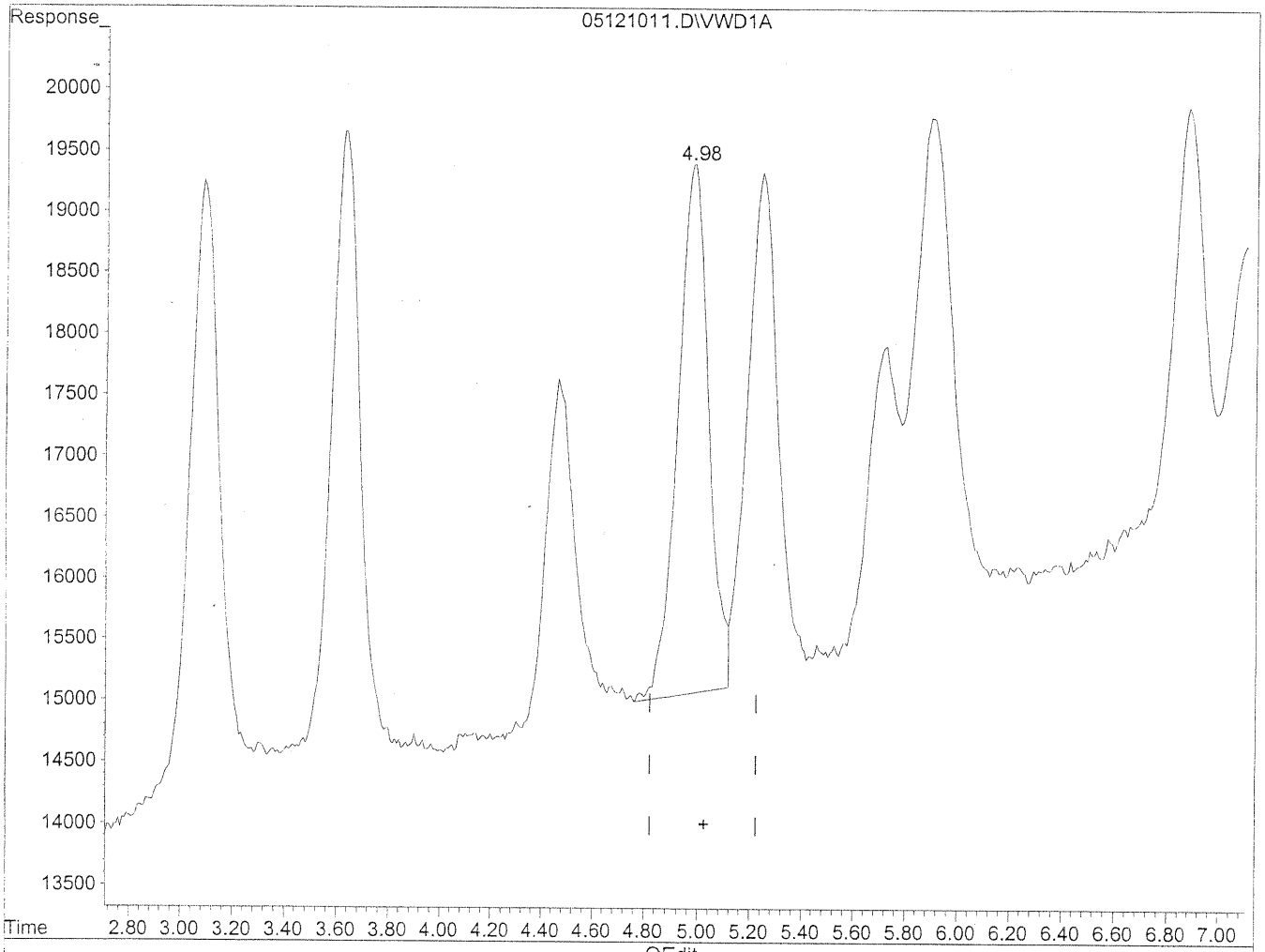
(+) = Expected Retention Time

05121011.D TO110510.M Thu May 13 10:37:45 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:37 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

4.98min 96.526ng/ml m

response 348203

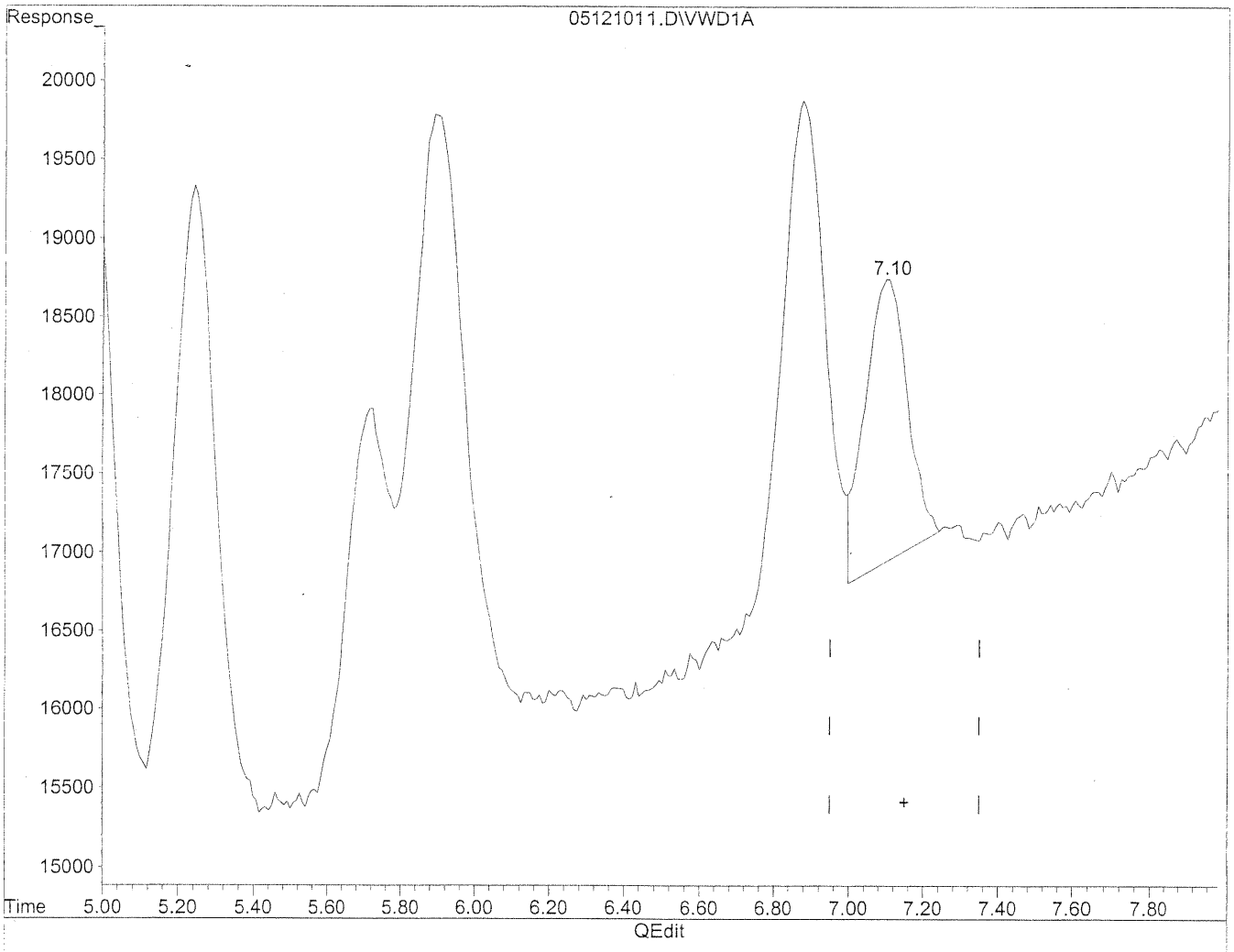
(+) = Expected Retention Time

05121011.D TO110510.M Thu May 13 10:37:51 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:37 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.11min 83.492ng/ml

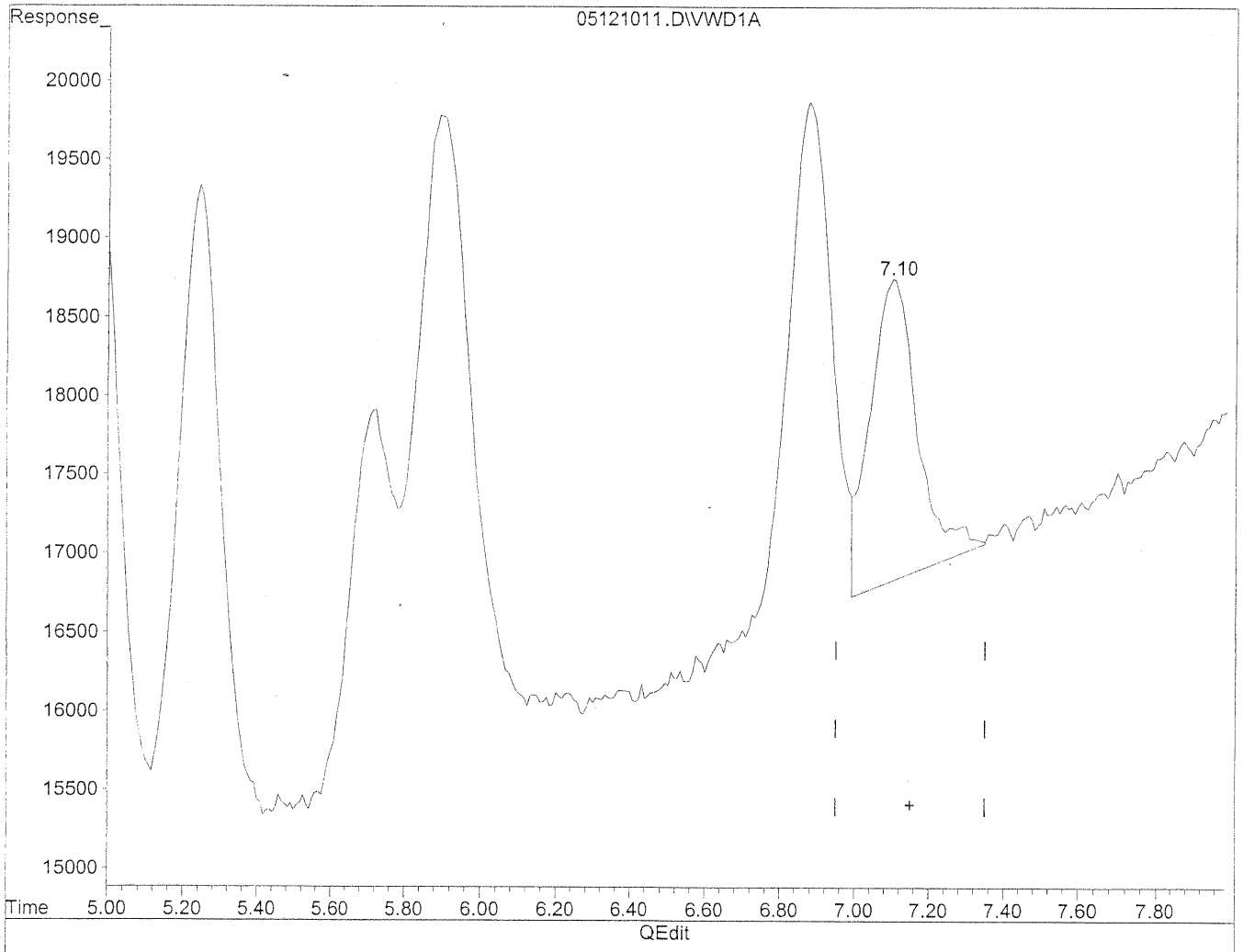
response 143452

(+) = Expected Retention Time
05121011.D TO110510.M Thu May 13 10:38:04 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121011.D Vial: 127
Acq On : 12-May-2010, 14:01 Operator: MD
Sample : 100ng/ml TO-11A S21-03091009 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 10:37 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.10min 99.780ng/ml m

response 171438

5/13/10

5/13/10

(+) = Expected Retention Time

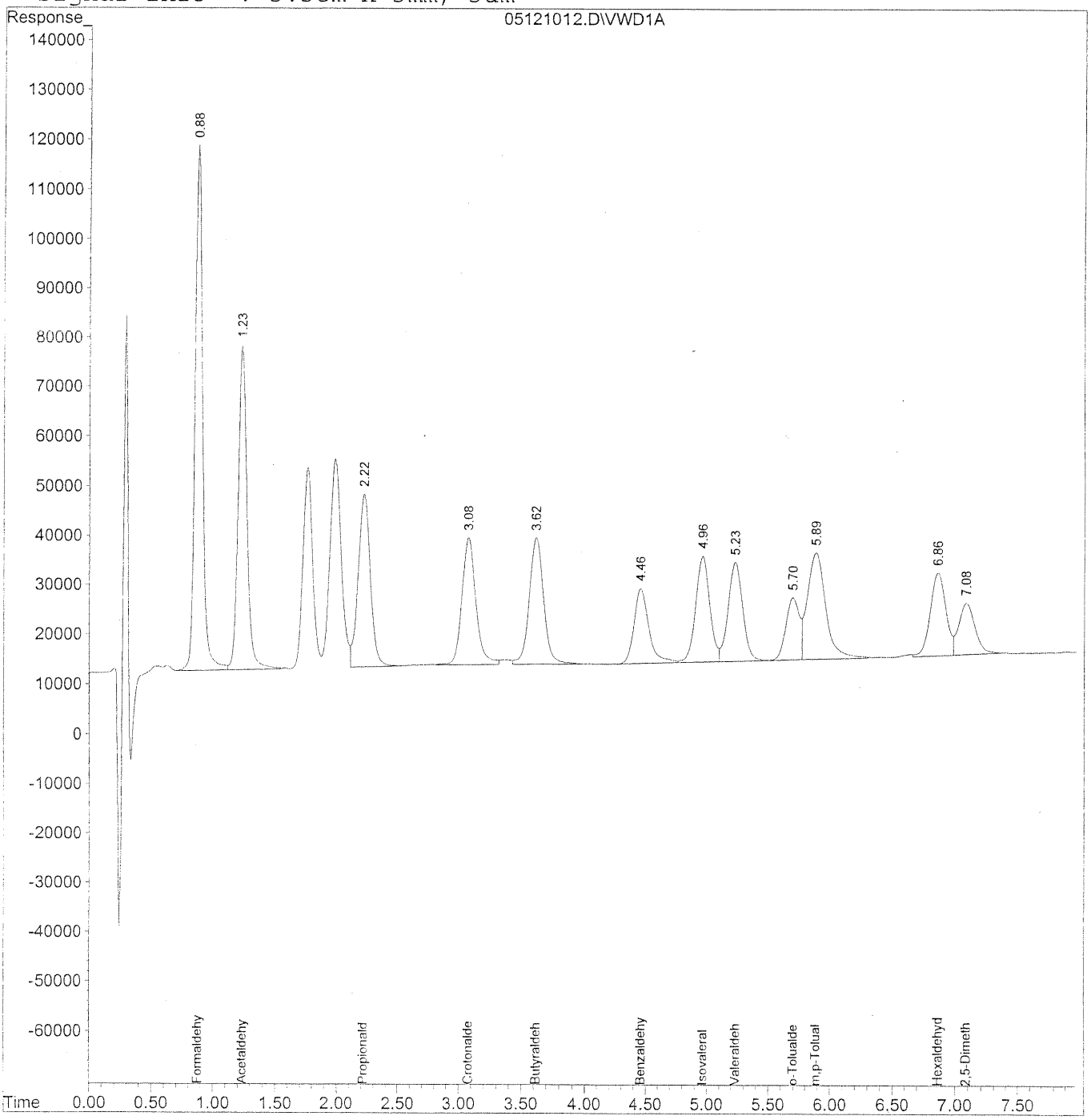
05121011.D TO110510.M Thu May 13 10:38:12 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121012.D Vial: 128
Acq On : 12-May-2010, 14:11 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:22 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121012.D Vial: 128
Acq On : 12-May-2010, 14:11 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:22 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

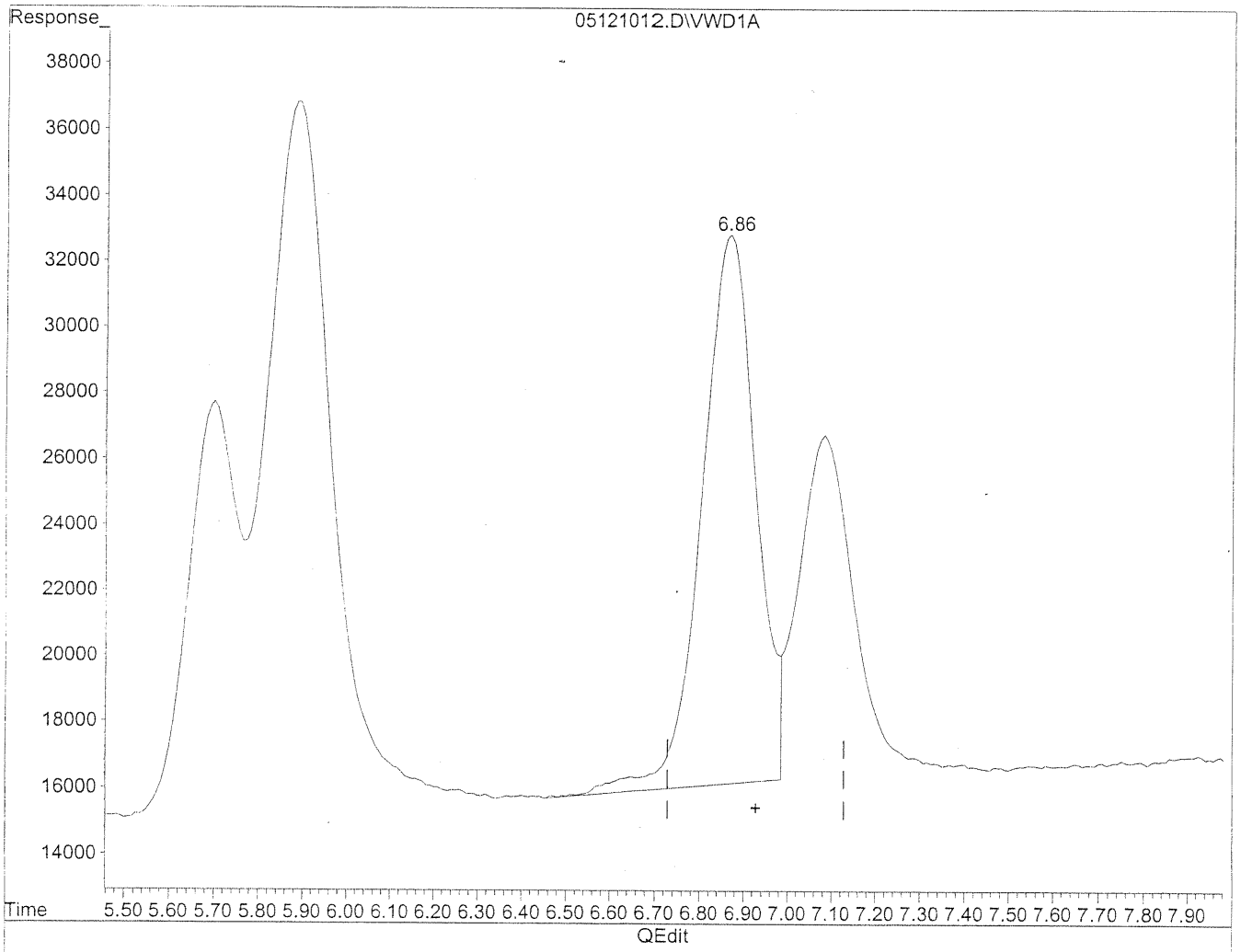
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	4495617	481.698	ng/ml
2)	Acetaldehyde	1.23	3259809	483.998	ng/ml
3)	Propionaldehyde	2.22	2404725	494.618	ng/ml
4)	Crotonaldehyde	3.08	2002003	491.187	ng/ml
5)	Butyraldehyde	3.62	2023401	502.392	ng/ml
6)	Benzaldehyde	4.46	1278175	477.723	ng/ml
7)	Isovaleraldehyde	4.97	1711547	482.803	ng/ml
8)	Valeraldehyde	5.23	1638320	489.078	ng/ml
9)	o-Tolualdehyde	5.70	938923	463.756	ng/ml
10)	m,p-Tolualdehyde	5.89	2231369	955.961	ng/ml
11)	Hexaldehyde	6.86	1388874	484.457	ng/mlm
12)	2,5-Dimethylbenzaldehyde	7.09	900771	472.160	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121012.D Vial: 128
Acq On : 12-May-2010, 14:11 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:21 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



QEdit

(11) Hexaldehyde

6.87min 492.780ng/ml

response 1412737

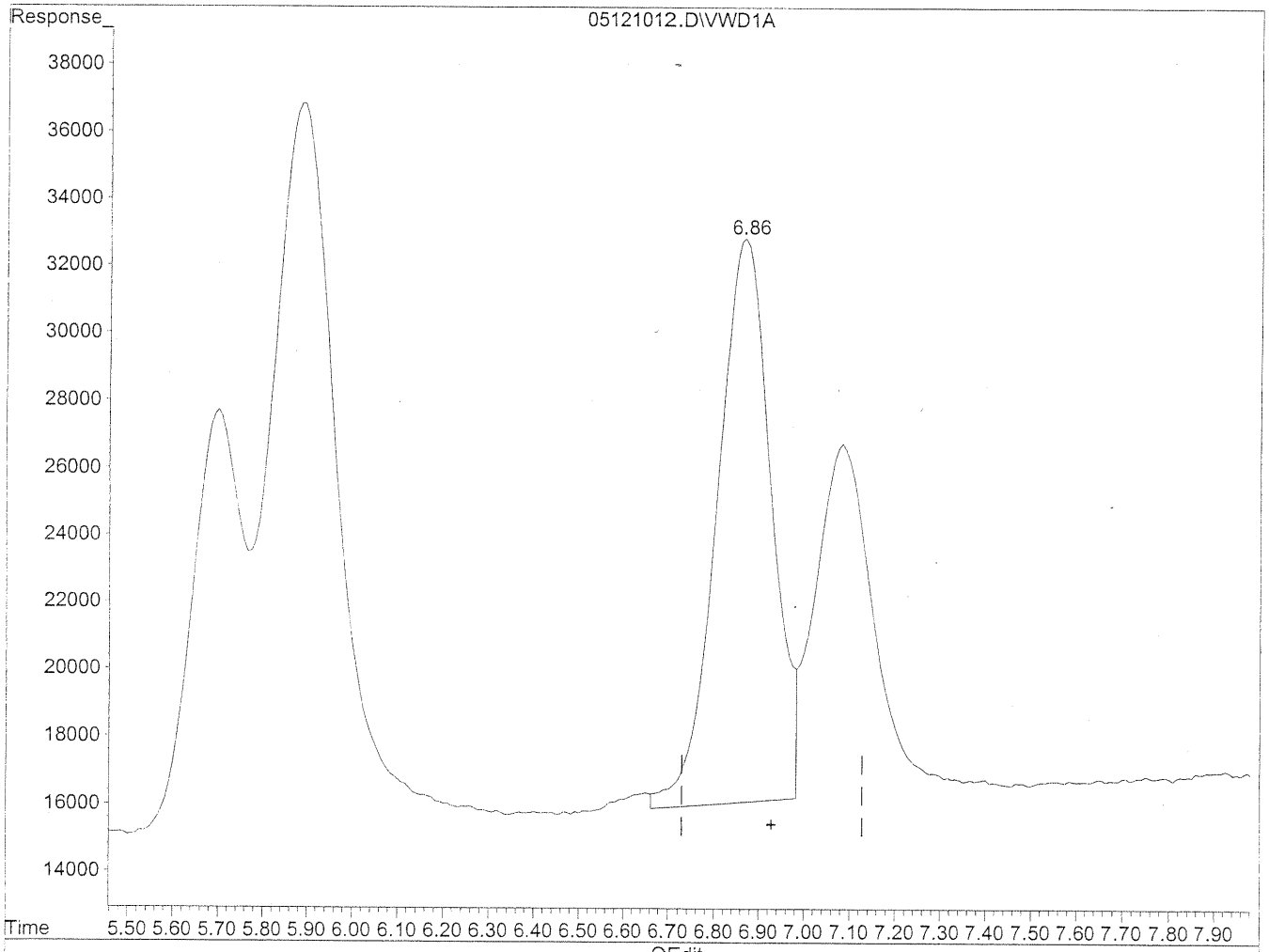
(+) = Expected Retention Time

05121012.D TO110510.M Thu May 13 11:21:56 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121012.D Vial: 128
Acq On : 12-May-2010, 14:11 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:21 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



QEdit

(11) Hexaldehyde

6.86min 484.457ng/ml m

response 1388874

(+) = Expected Retention Time

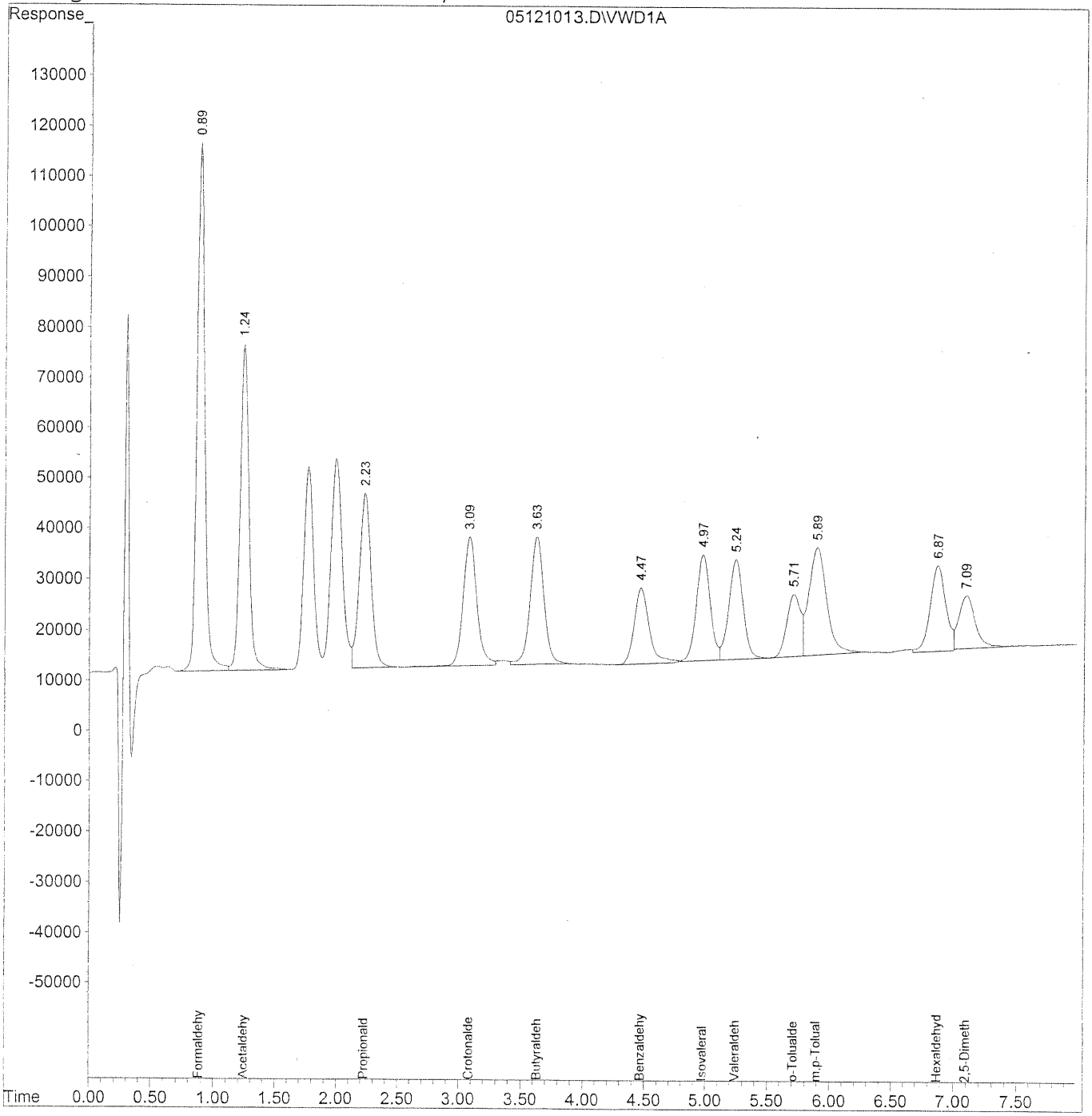
05121012.D TO110510.M Thu May 13 11:22:06 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121013.D Vial: 128
Acq On : 12-May-2010, 14:22 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:22 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121013.D Vial: 128
Acq On : 12-May-2010, 14:22 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:22 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

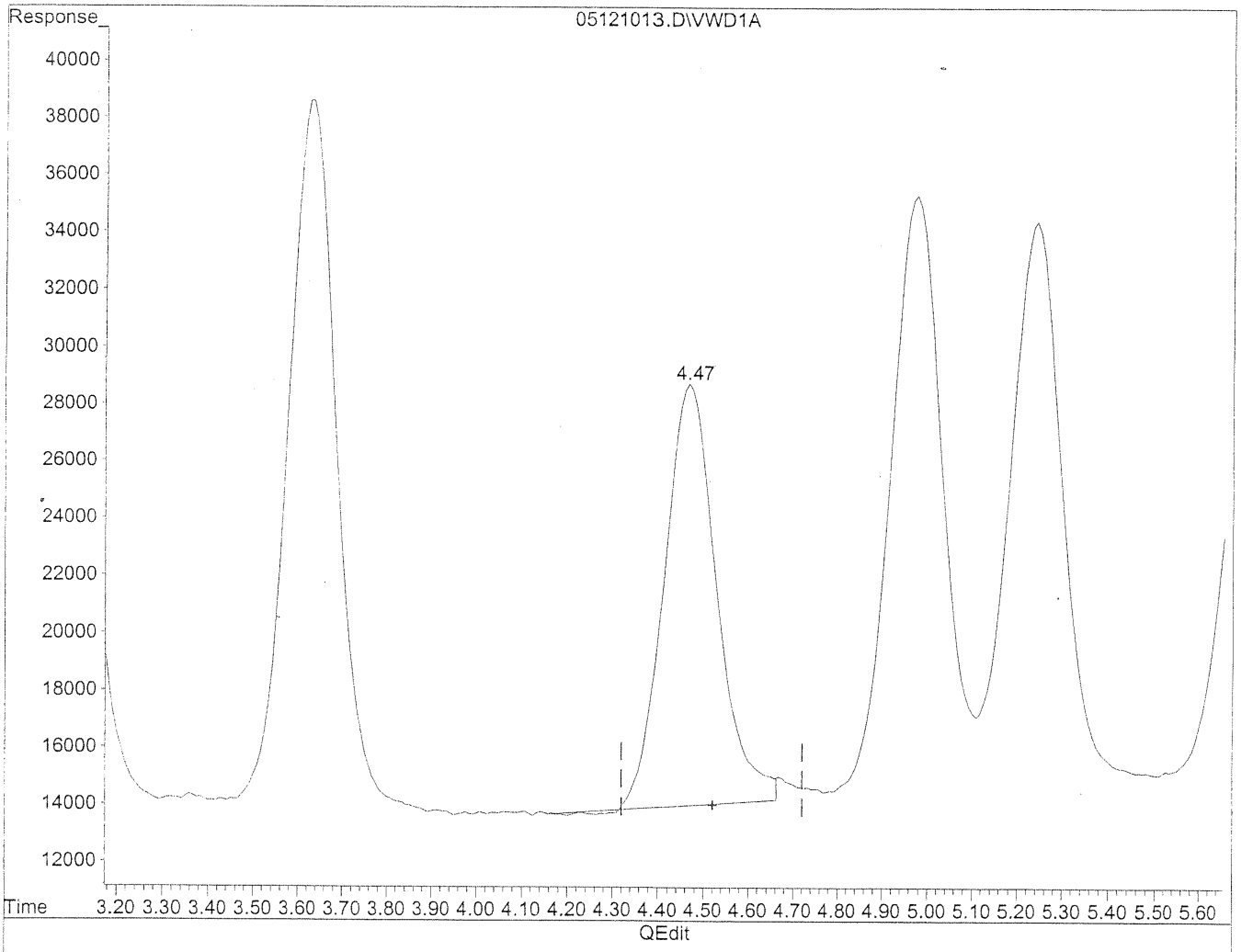
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	4417710	472.938	ng/ml
2)	Acetaldehyde	1.24	3209279	475.809	ng/ml
3)	Propionaldehyde	2.23	2333955	479.242	ng/ml
4)	Crotonaldehyde	3.09	1948793	477.568	ng/ml
5)	Butyraldehyde	3.63	1961887	486.262	ng/ml
6)	Benzaldehyde	4.47	1268692	472.481	ng/mlm
7)	Isovaleraldehyde	4.98	1654372	466.210	ng/ml
8)	Valeraldehyde	5.24	1590849	474.318	ng/ml
9)	o-Tolualdehyde	5.71	924147	456.346	ng/ml
10)	m,p-Tolualdehyde	5.90	2119427	905.681	ng/ml
11)	Hexaldehyde	6.87	1443384	504.020	ng/mlm
12)	2,5-Dimethylbenzaldehyde	7.09	923075	484.998	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121013.D Vial: 128
Acq On : 12-May-2010, 14:22 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:22 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.47min 437.841ng/ml

response 1175677

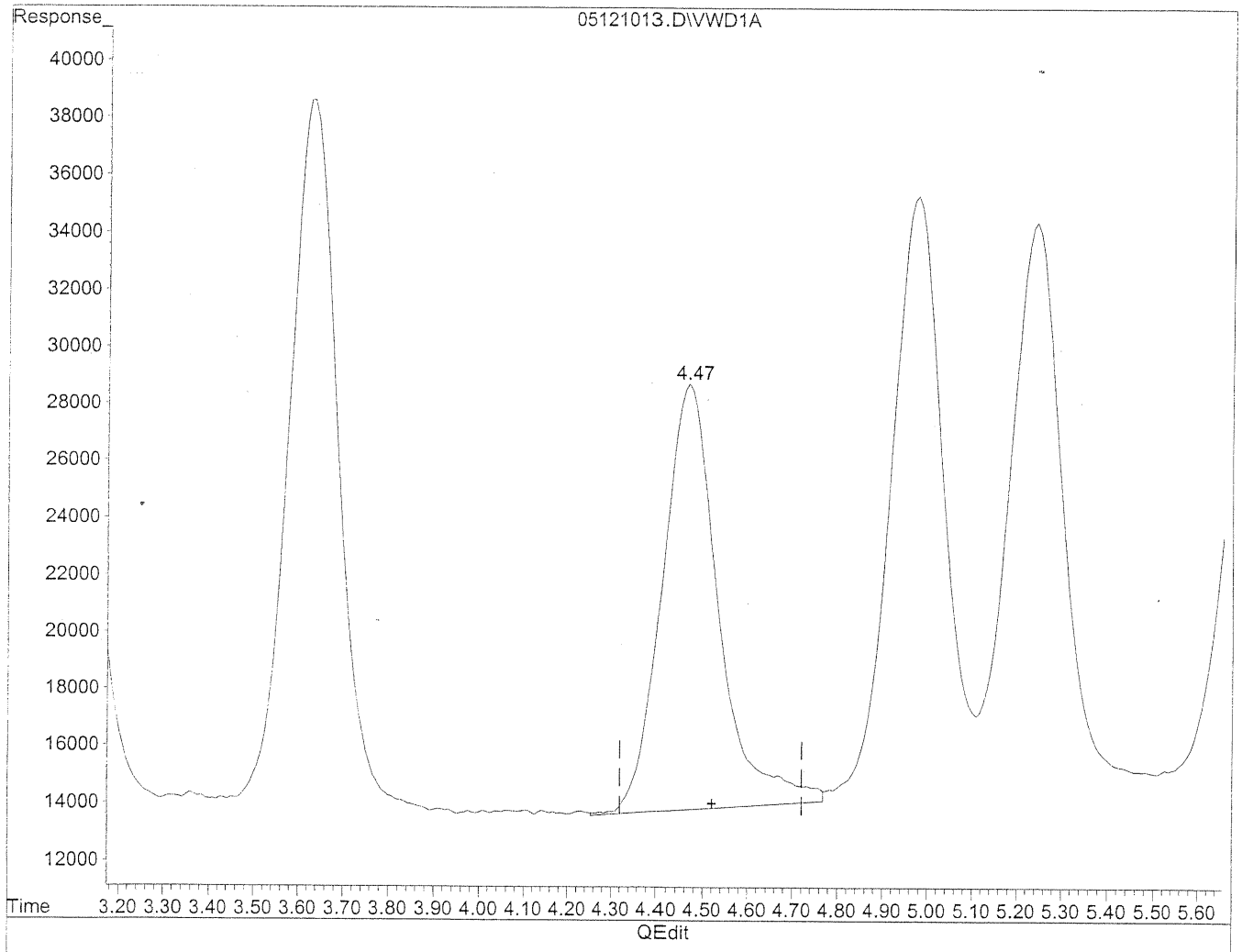
(+) = Expected Retention Time

05121013.D TO110510.M Thu May 13 11:22:31 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121013.D Vial: 128
Acq On : 12-May-2010, 14:22 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:22 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.47min 472.481ng/ml m

response 1268692

tlc 5/09/10

PR 5/13/10

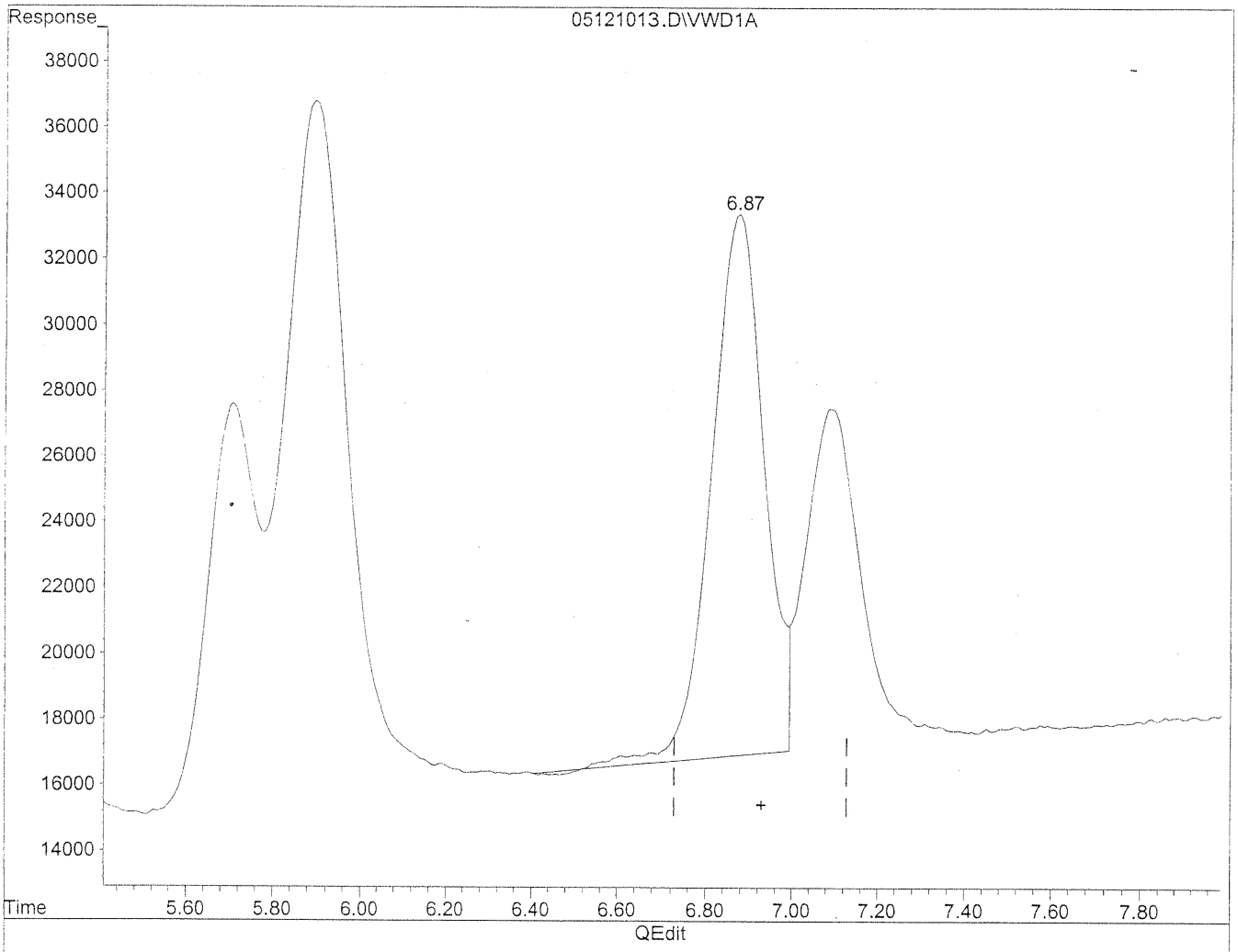
(+) = Expected Retention Time

05121013.D TO110510.M Thu May 13 11:22:36 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121013.D Vial: 128
Acq On : 12-May-2010, 14:22 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:22 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.88min 482.590ng/ml

response 1382016

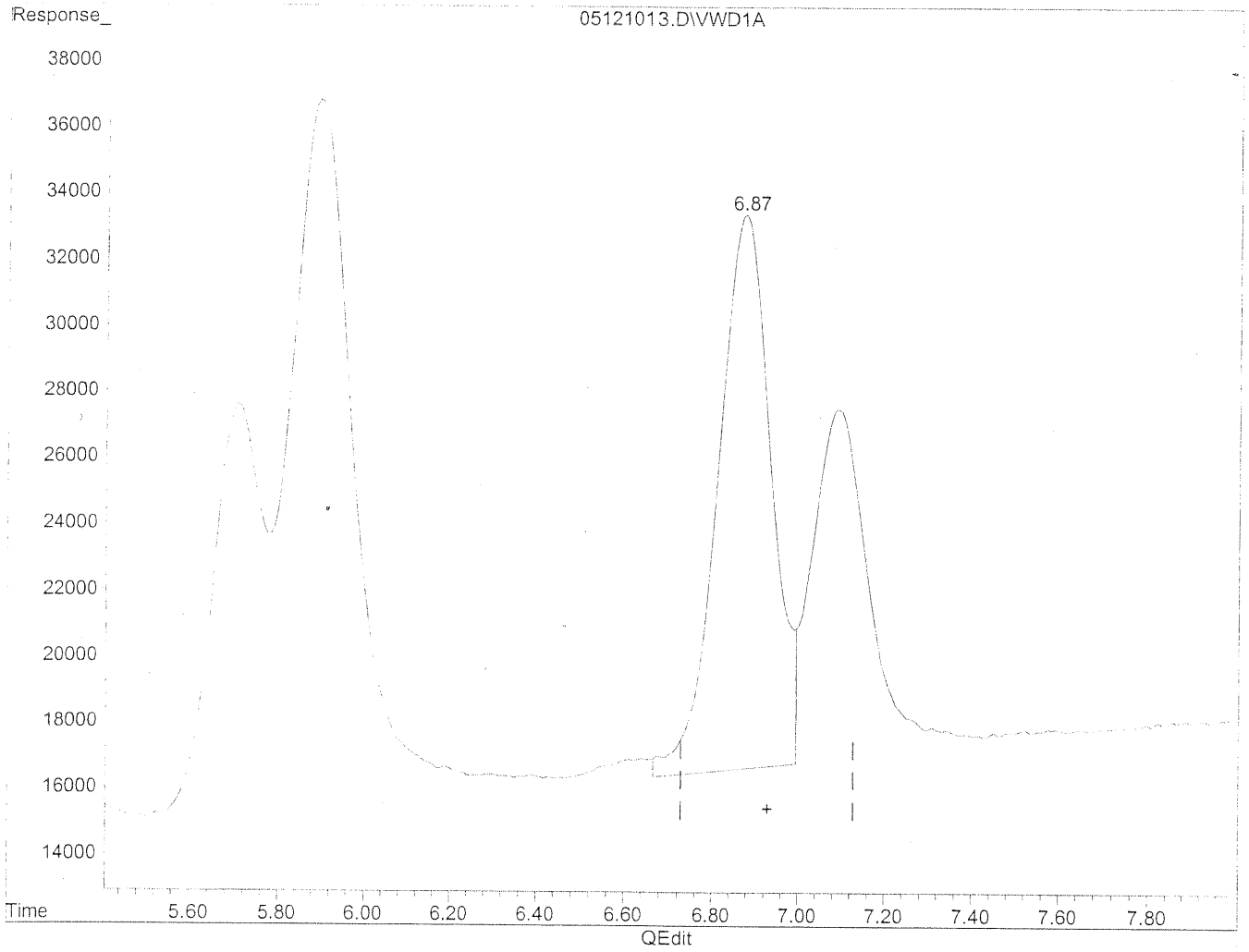
(+) = Expected Retention Time

05121013.D TO110510.M Thu May 13 11:22:48 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121013.D Vial: 128
Acq On : 12-May-2010, 14:22 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:22 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.87min 504.020ng/ml m

response 1443384

(+) = Expected Retention Time

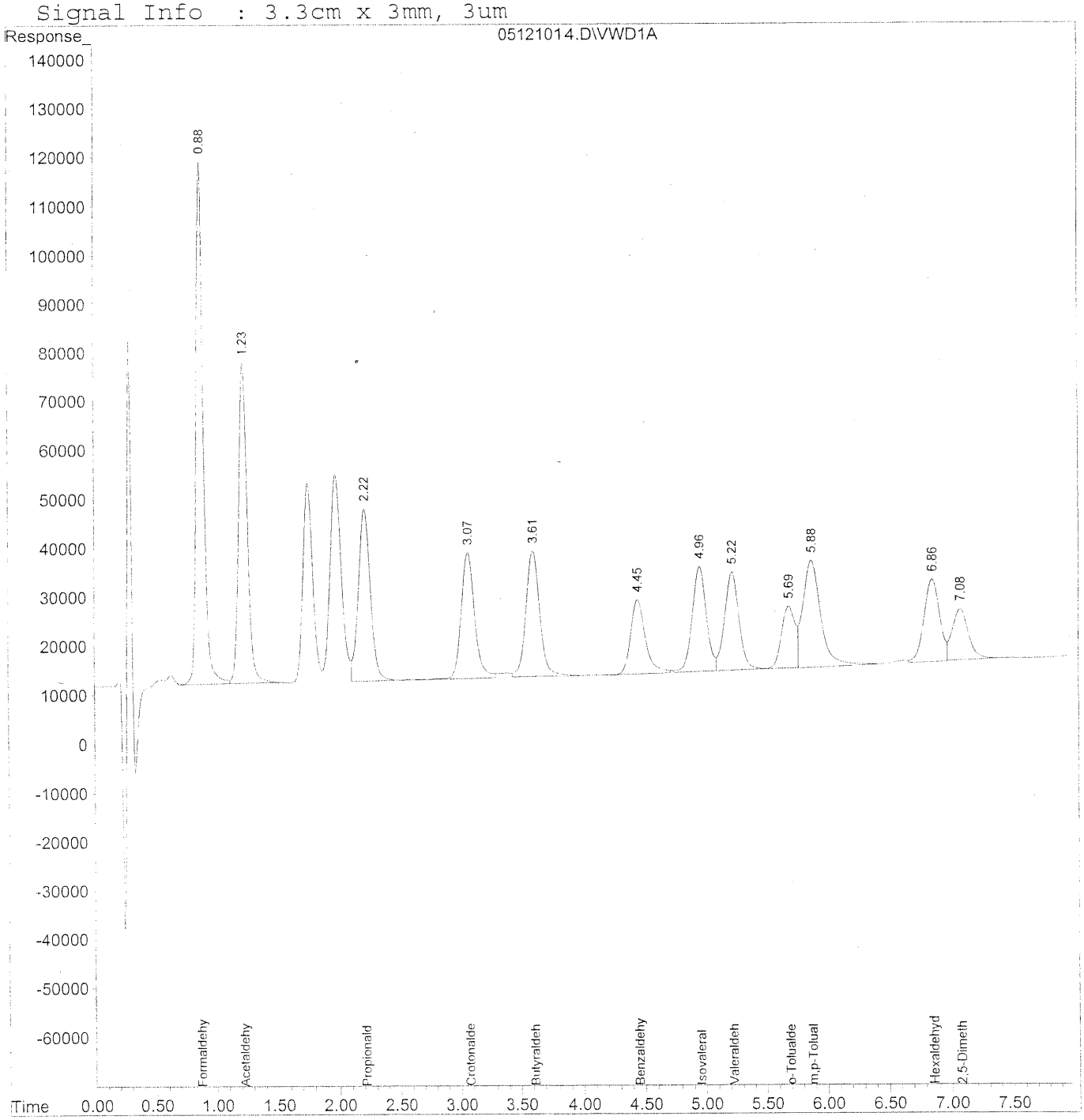
05121013.D TO110510.M Thu May 13 11:22:52 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121014.D Vial: 128
Acq On : 12-May-2010, 14:33 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:23 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121014.D Vial: 128
Acq On : 12-May-2010, 14:33 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:23 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

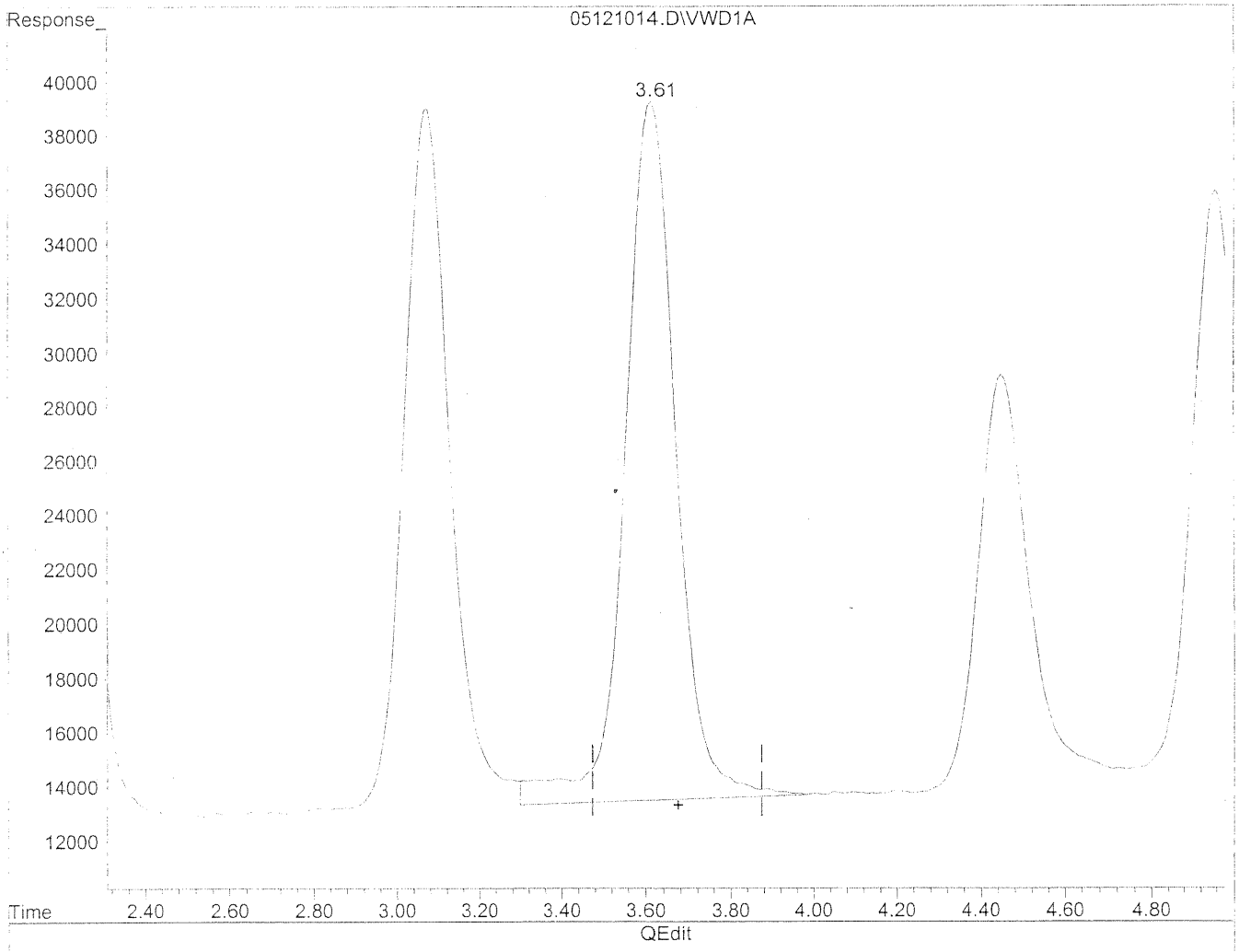
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	4500287	482.449	ng/ml
2)	Acetaldehyde	1.23	3222875	478.422	ng/ml
3)	Propionaldehyde	2.22	2400632	494.130	ng/ml
4)	Crotonaldehyde	3.07	2011898	494.107	ng/ml
5)	Butyraldehyde	3.61	2033218	505.226	ng/mlm
6)	Benzaldehyde	4.45	1264097	471.047	ng/ml
7)	Isovaleraldehyde	4.96	1737363	490.915	ng/ml
8)	Valeraldehyde	5.23	1649238	492.889	ng/ml
9)	o-Tolualdehyde	5.69	1012766	500.715	ng/mlm
10)	m,p-Tolualdehyde	5.88	2266322	972.328	ng/mlm
11)	Hexaldehyde	6.86	1439322	501.012	ng/mlm
12)	2,5-Dimethylbenzaldehyde	7.08	915366	480.011	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121014.D Vial: 128
Acq On : 12-May-2010, 14:33 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.62min 524.491ng/ml

response 2110749

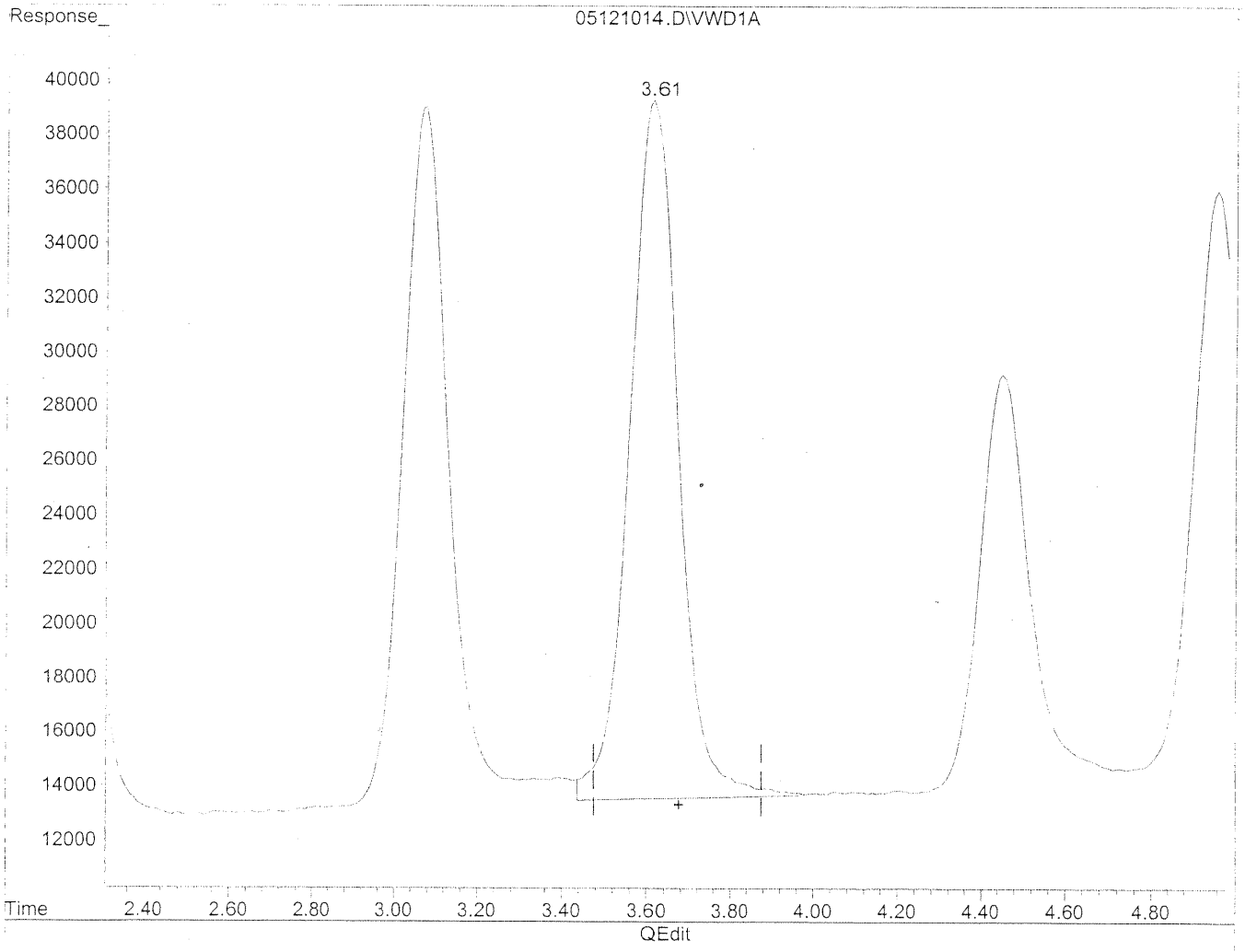
(+) = Expected Retention Time

05121014.D TO110510.M Thu May 13 11:23:13 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121014.D Vial: 128
Acq On : 12-May-2010, 14:33 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(5) Butyraldehyde

3.61min 505.226ng/ml m

response 2033218

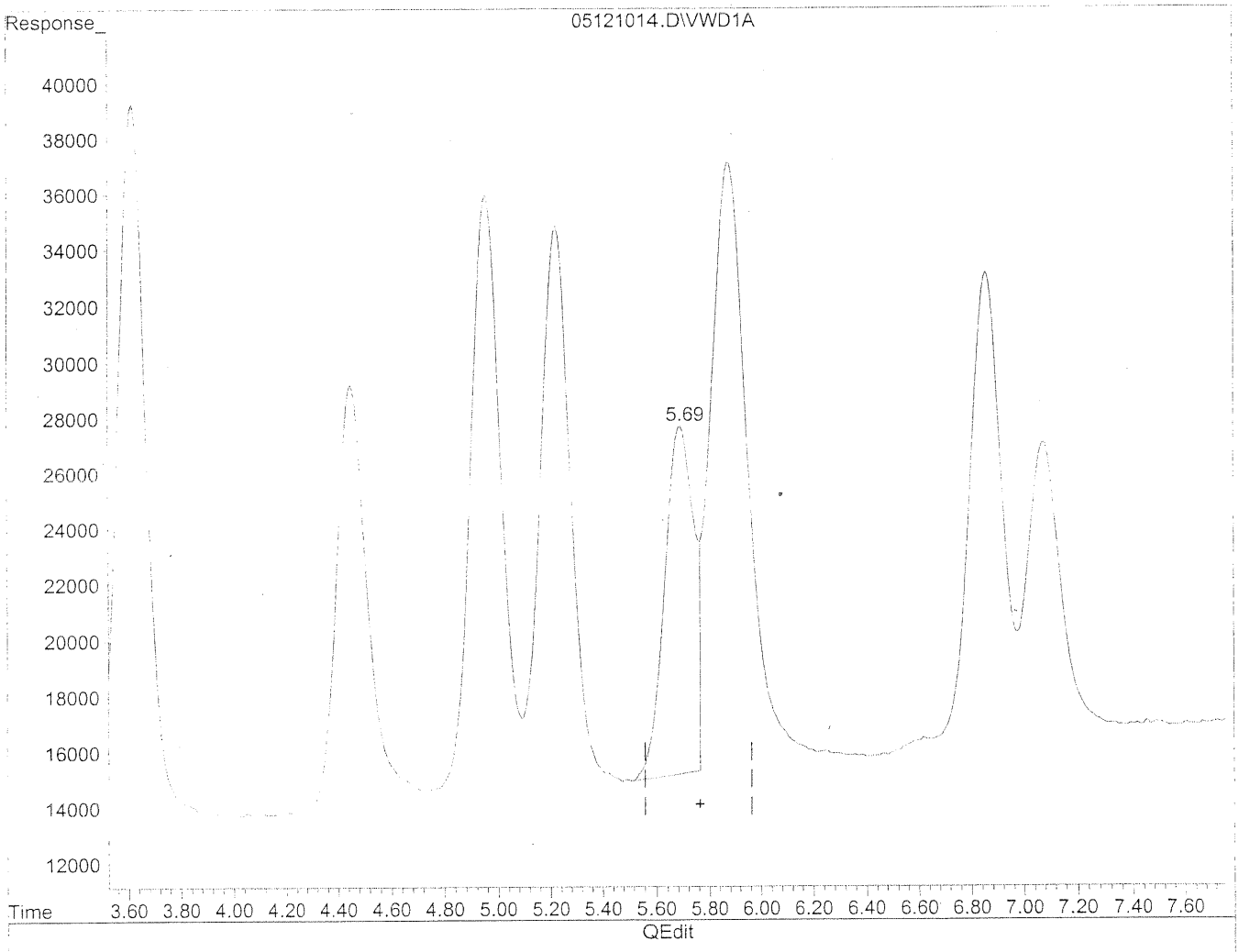
(+) = Expected Retention Time

05121014.D TO110510.M Thu May 13 11:23:17 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121014.D Vial: 128
Acq On : 12-May-2010, 14:33 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.69min 465.689ng/ml

response 941921

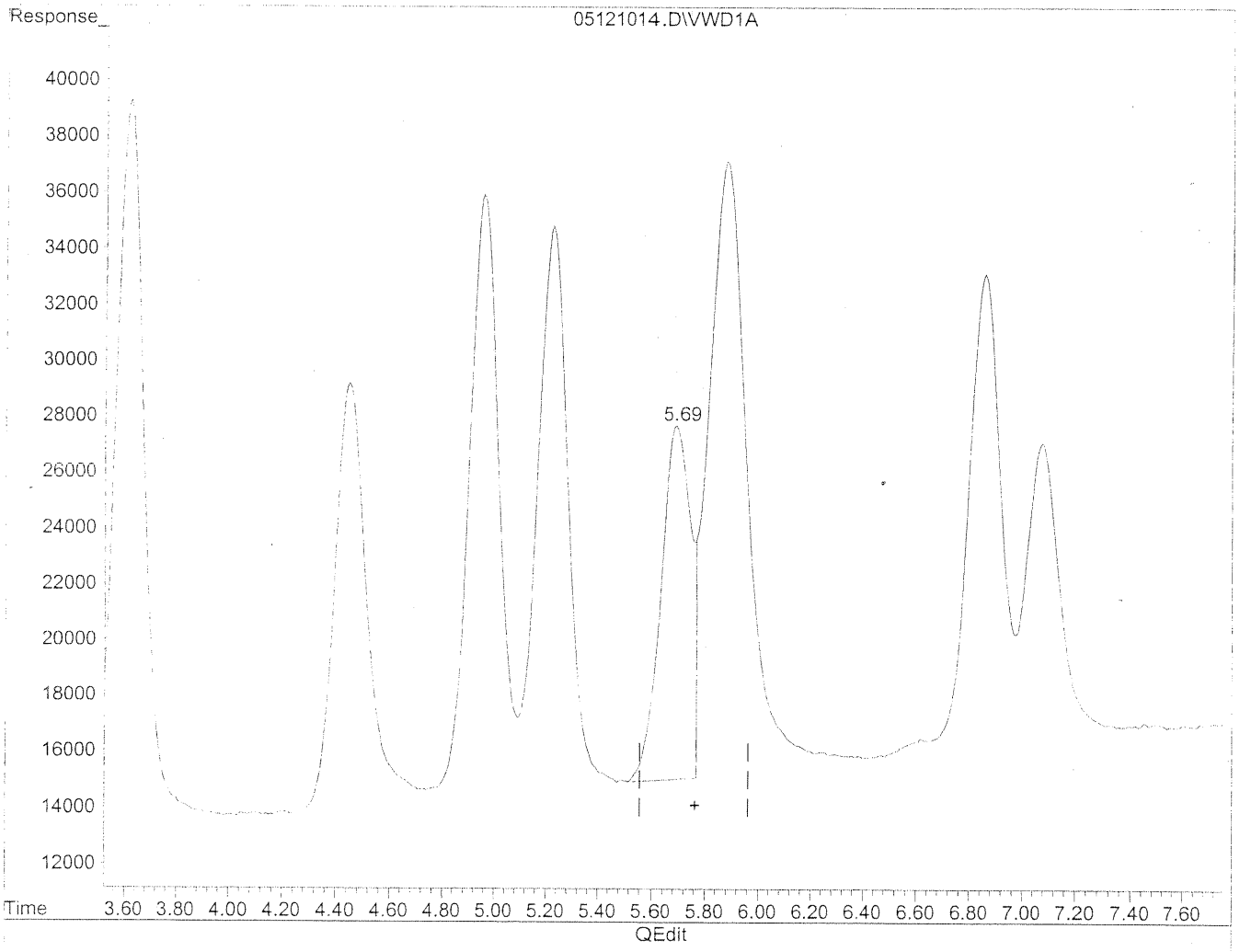
(+) = Expected Retention Time

05121014.D TO110510.M Thu May 13 11:23:28 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121014.D Vial: 128
Acq On : 12-May-2010, 14:33 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

5.69min 500.715ng/ml m

response 1012766

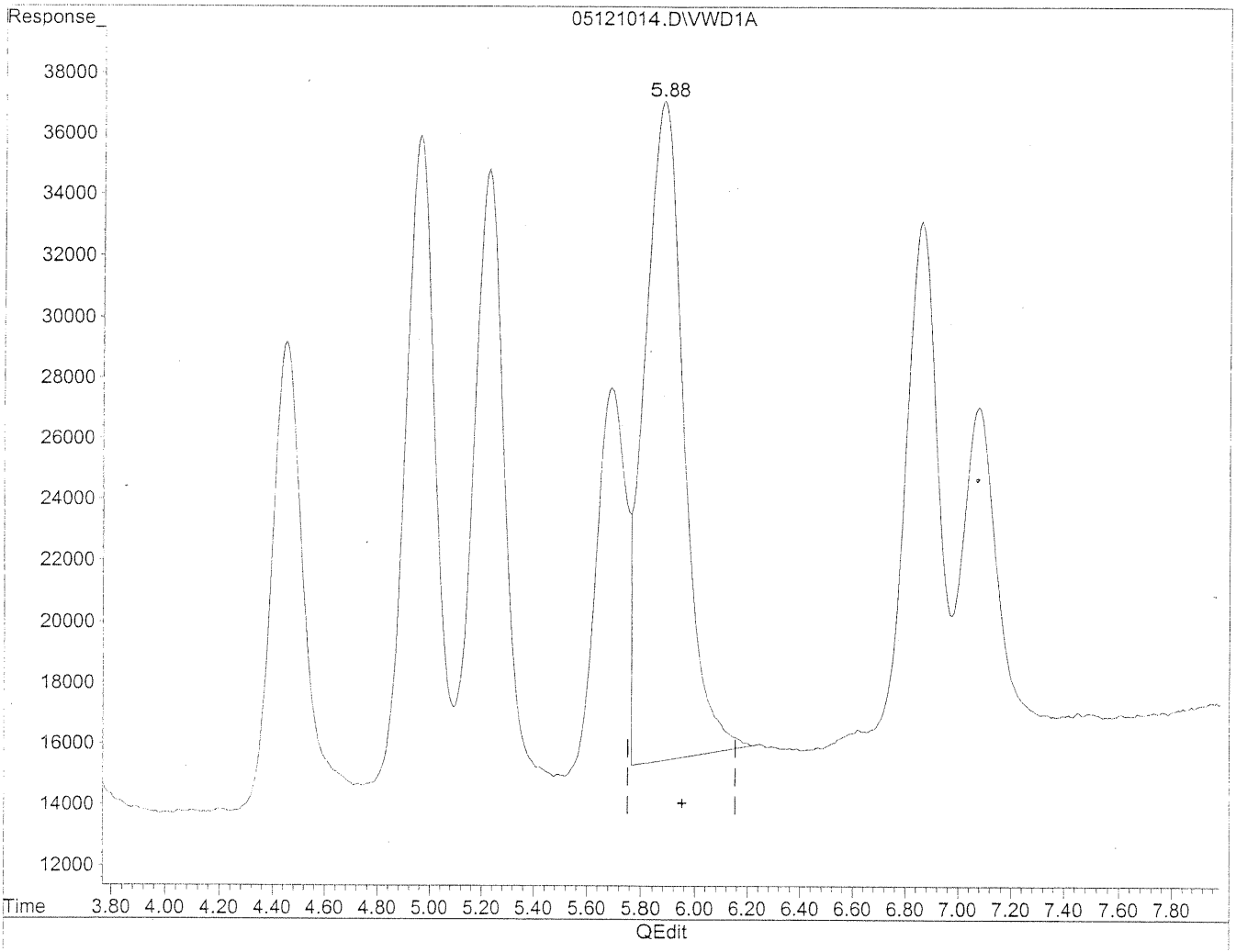
(+) = Expected Retention Time

05121014.D TO110510.M Thu May 13 11:23:34 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121014.D Vial: 128
Acq On : 12-May-2010, 14:33 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

5.88min 929.010ng/ml

response 2165353

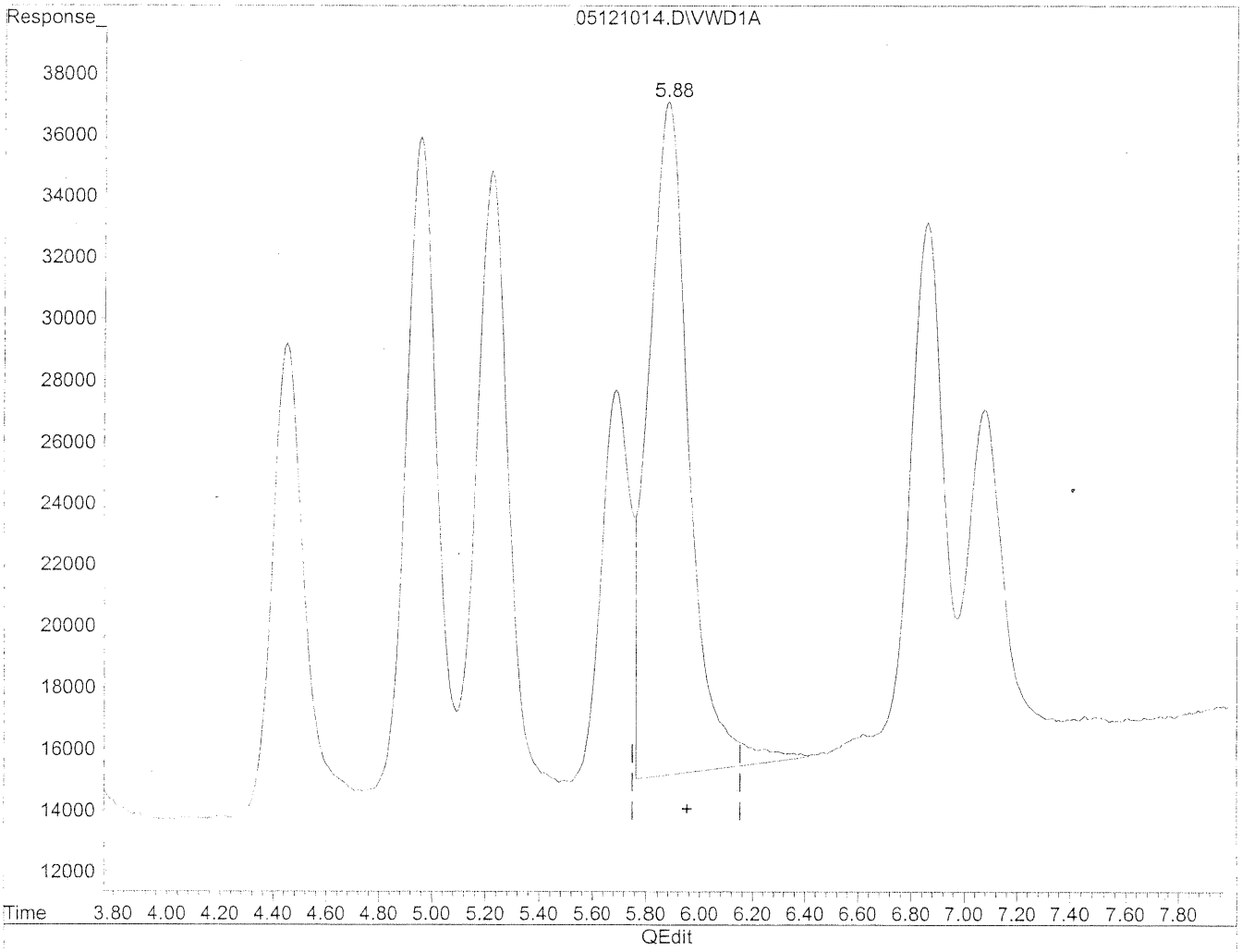
(+) = Expected Retention Time

05121014.D TO110510.M Thu May 13 11:23:39 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121014.D Vial: 128
Acq On : 12-May-2010, 14:33 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

5.88min 972.328ng/ml m

response 2266322

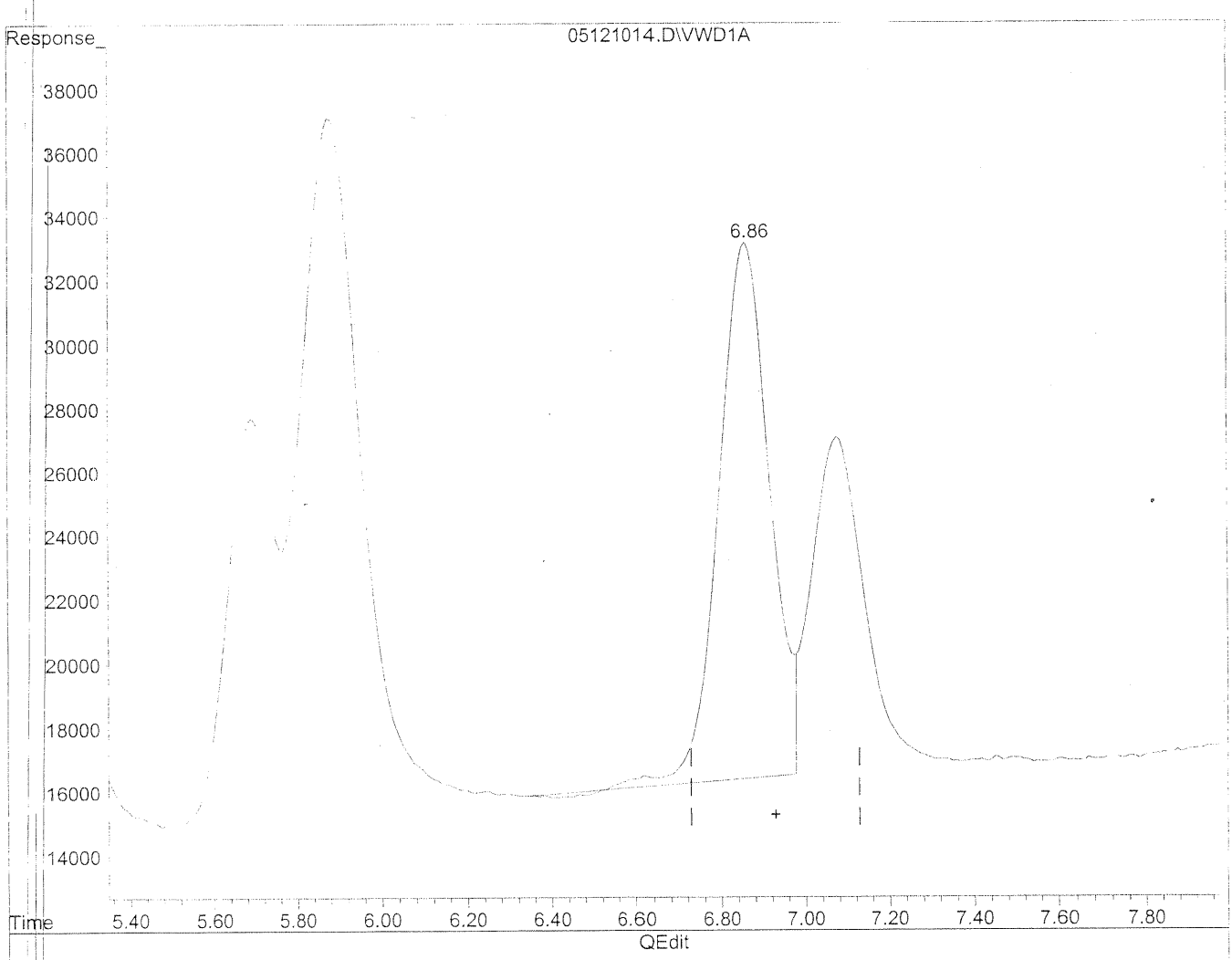
(+) = Expected Retention Time

05121014.D TO110510.M Thu May 13 11:23:46 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121014.D Vial: 128
Acq On : 12-May-2010, 14:33 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.86min 484.721ng/ml

response 1392521

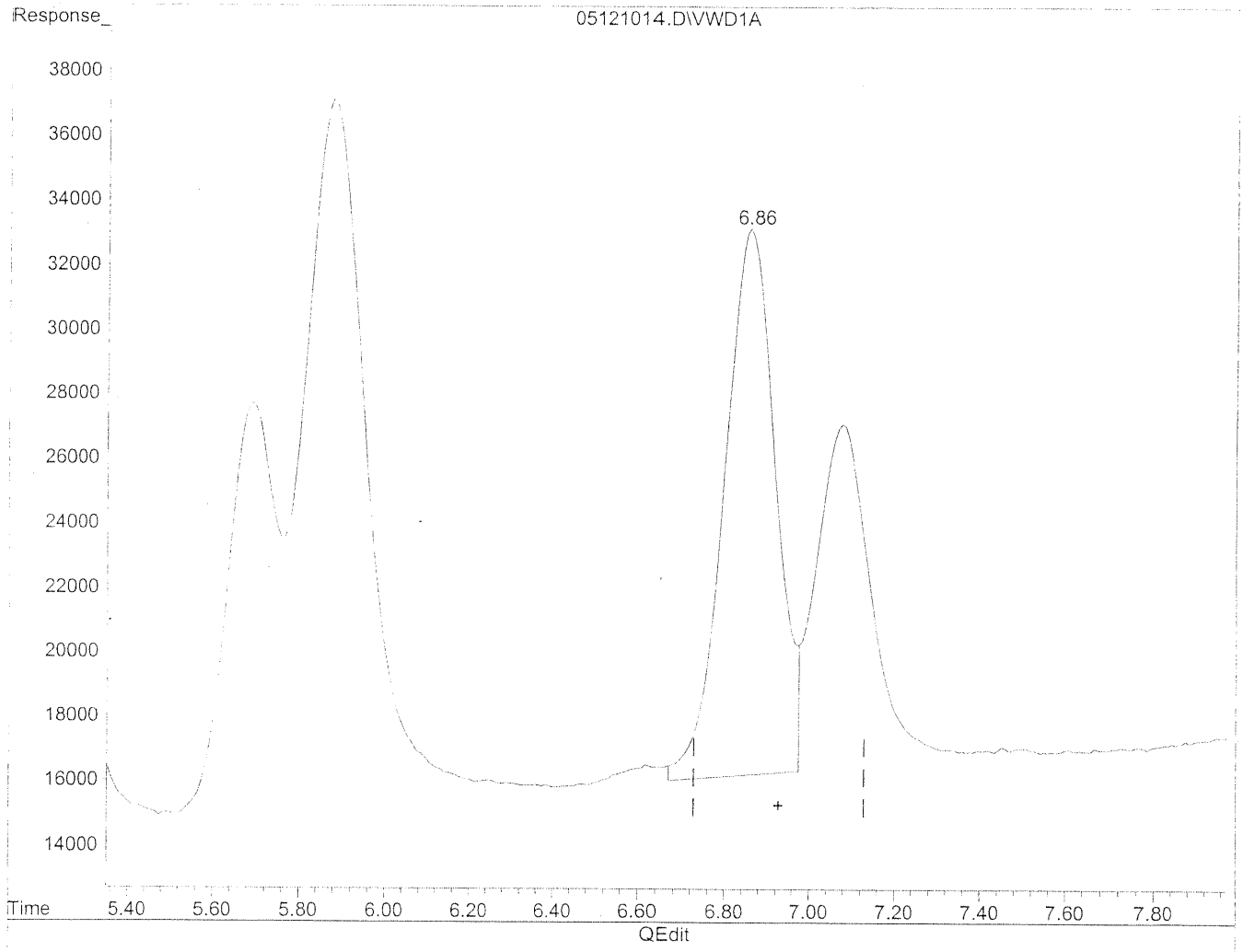
(+) = Expected Retention Time

05121014.D TO110510.M Thu May 13 11:23:50 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121014.D Vial: 128
Acq On : 12-May-2010, 14:33 Operator: MD
Sample : 500ng/ml TO-11A S21-03091008 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:23 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.86min 501.012ng/ml m

response 1439322

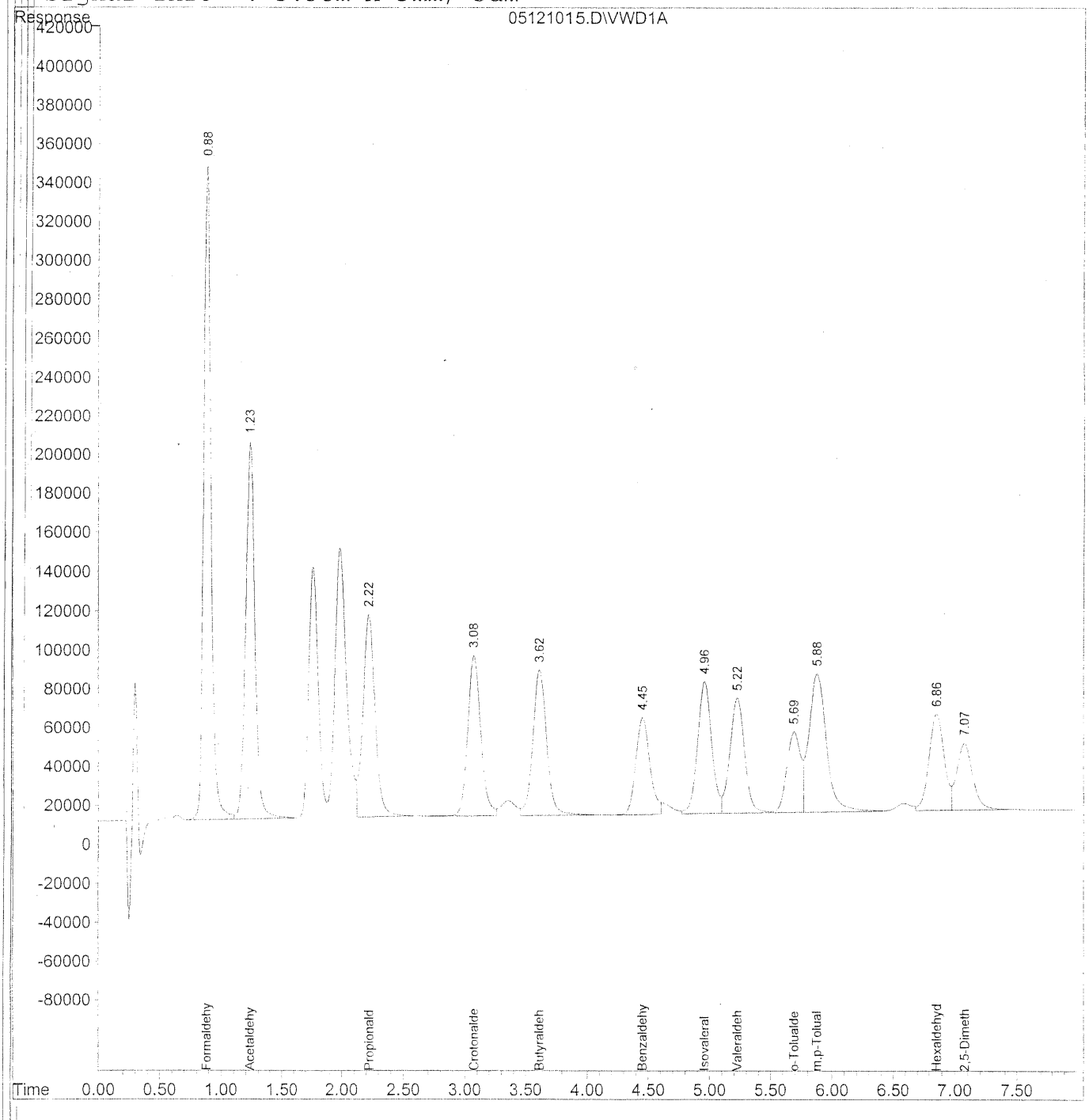
(+) = Expected Retention Time
05121014.D TO110510.M Thu May 13 11:23:54 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121015.D Vial: 129
Acq On : 12-May-2010, 14:43 Operator: MD
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:24 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121015.D Vial: 129
Acq On : 12-May-2010, 14:43 Operator: MD
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:24 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

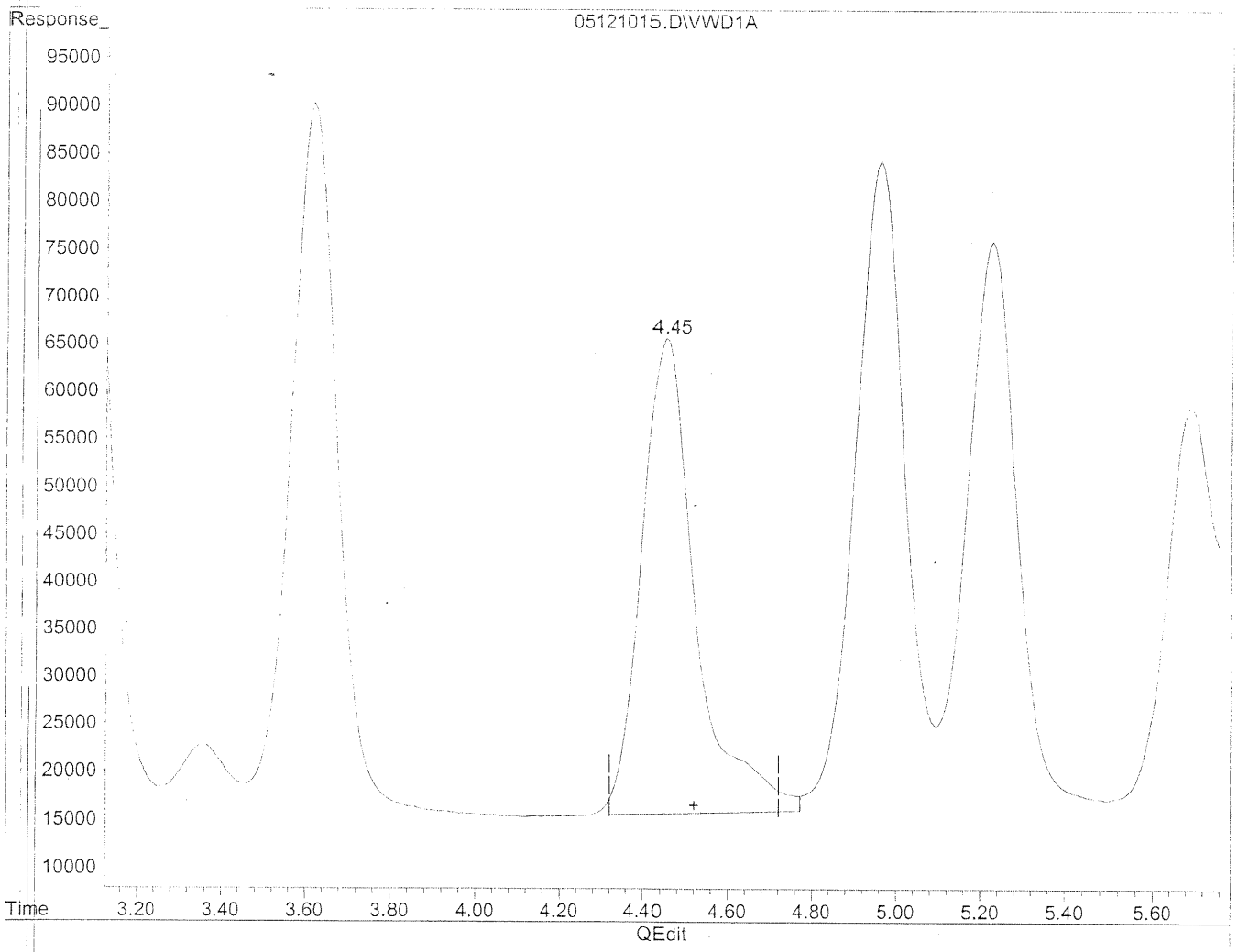
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Formaldehyde	0.89	13999341	1500.006	ng/ml
2)	Acetaldehyde	1.24	10223963	1517.997	ng/ml
3)	Propionaldehyde	2.22	7284521	1498.324	ng/ml
4)	Crotonaldehyde	3.08	6216075	1525.101	ng/ml
5)	Butyraldehyde	3.62	5951623	1477.239	ng/ml
6)	Benzaldehyde	4.45	4014948	1496.690	ng/mlm
7)	Isovaleraldehyde	4.96	5545667	1564.331	ng/ml
8)	Valeraldehyde	5.23	4908691	1465.320	ng/ml
9)	o-Tolualdehyde	5.69	3190358	1570.316	ng/ml
10)	m,p-Tolualdehyde	5.88	7206275	3085.049	ng/ml
11)	Hexaldehyde	6.86	4163357	1447.919	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.08	3013354	1579.862	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121015.D Vial: 129
Acq On : 12-May-2010, 14:43 Operator: MD
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:24 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.45min 1622.568ng/ml

response 4352620

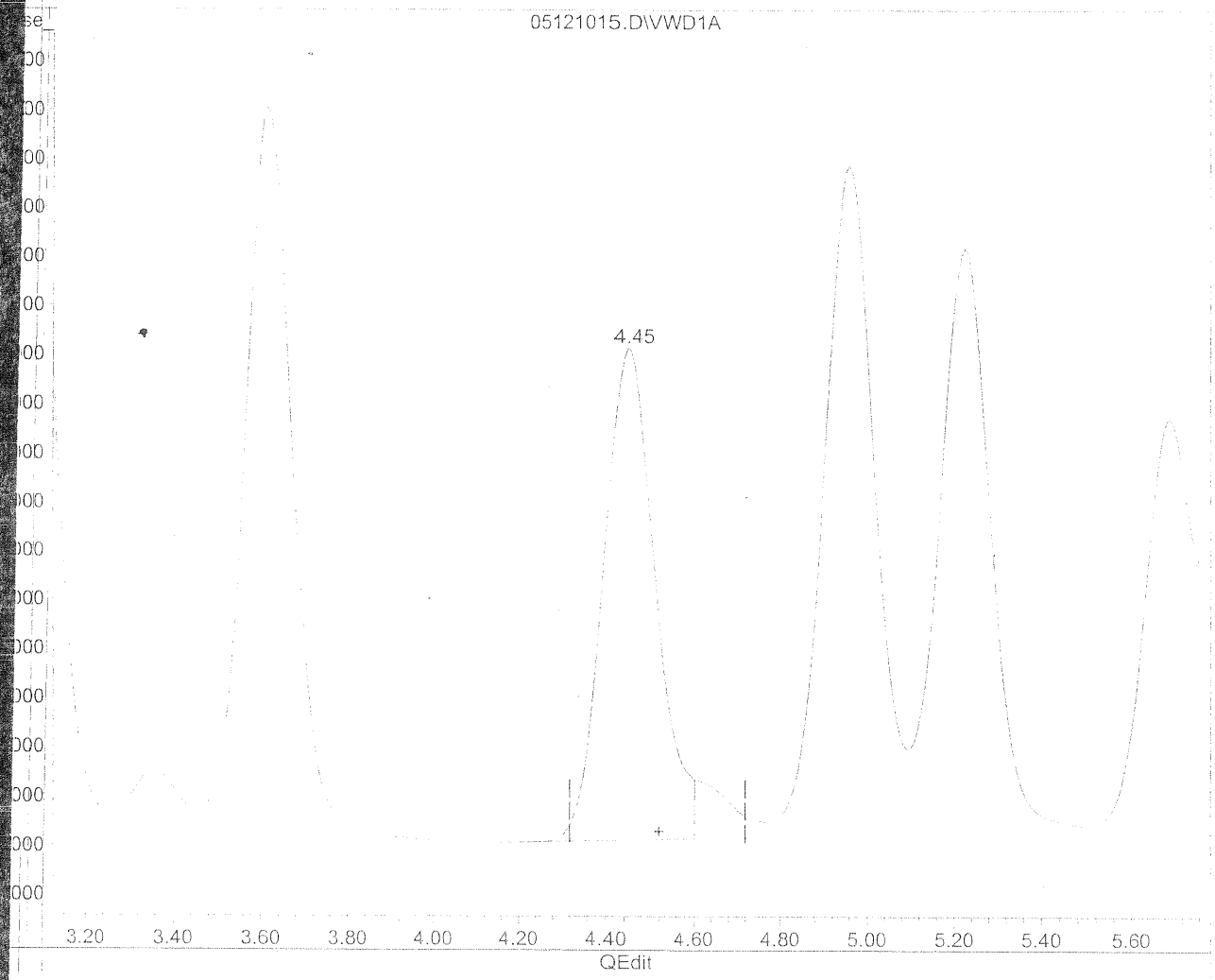
(+) = Expected Retention Time

05121015.D TO110510.M Thu May 13 11:24:31 2010

Quantitation Report

ta File : J:\LC02\DATA\TO11A\2010_05\12\05121015.D Vial: 129
g On : 12-May-2010, 14:43 Operator: MD
mple : 1500ng/ml TO-11A S21-04211003 Inst : VWD
sc : Multiplr: 1.00
tFile : events.e
ant Time: May 13 11:24 19110 Quant Results File: TO110510.RES

thod : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
tle : LC-1050 TO-11A ICAL
st Update : Wed May 12 13:15:37 2010
sponse via : Multiple Level Calibration



(6) Benzaldehyde

4.45min 1496.690ng/ml m

response 4014948

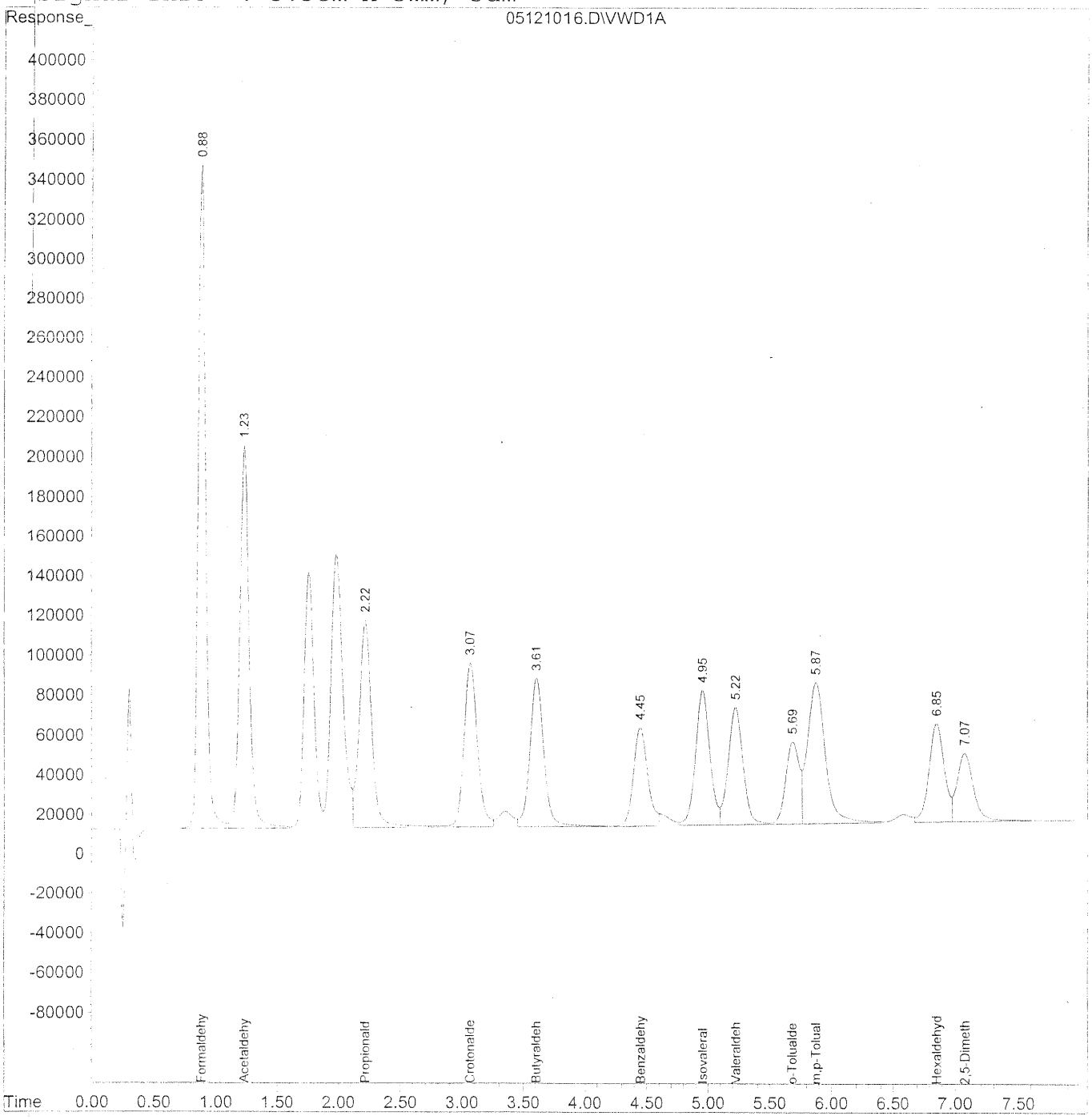
) = Expected Retention Time
21015.D TO110510.M Thu May 13 11:24:38 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121016.D Vial: 129
Acq On : 12-May-2010, 14:54 Operator: MD
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:25 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121016.D Vial: 129
Acq On : 12-May-2010, 14:54 Operator: MD
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:25 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

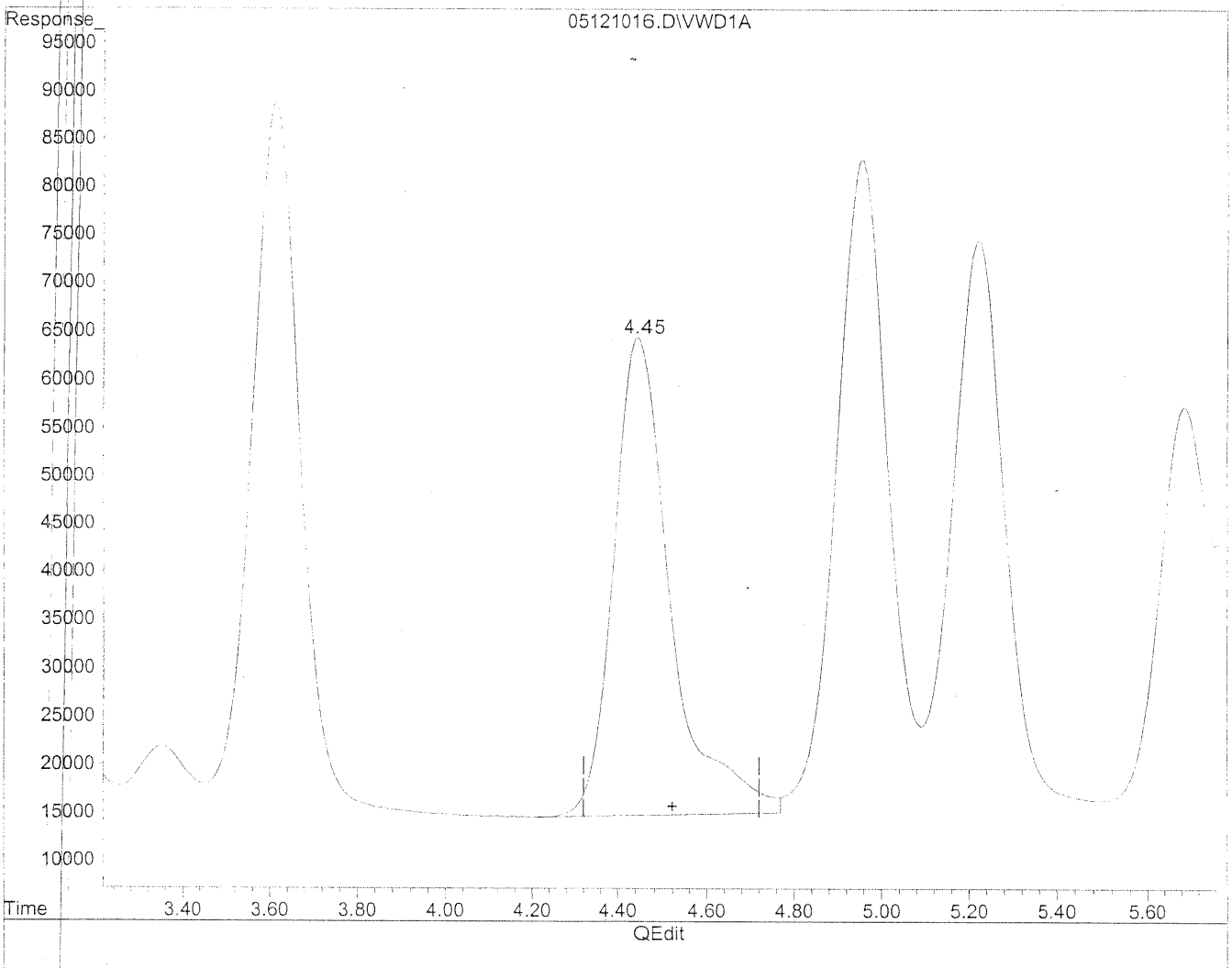
	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Formaldehyde	0.89	13920129	1490.345	ng/ml
2)	Acetaldehyde	1.23	10226975	1517.794	ng/ml
3)	Propionaldehyde	2.22	7416669	1526.210	ng/ml
4)	Crotonaldehyde	3.07	6289446	1543.072	ng/ml
5)	Butyraldehyde	3.62	5960039	1477.974	ng/ml
6)	Benzaldehyde	4.45	3993221	1489.382	ng/mlm
7)	Isovaleraldehyde	4.96	5523160	1556.836	ng/ml
8)	Valeraldehyde	5.22	4897059	1460.383	ng/ml
9)	o-Tolualdehyde	5.69	3181168	1563.869	ng/ml
10)	m,p-Tolualdehyde	5.88	7222715	3089.890	ng/ml
11)	Hexaldehyde	6.86	4177519	1451.819	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.07	3110373	1630.041	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121016.D Vial: 129
Acq On : 12-May-2010, 14:54 Operator: MD
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:25 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.45min 1625.490ng/ml

response 4358145

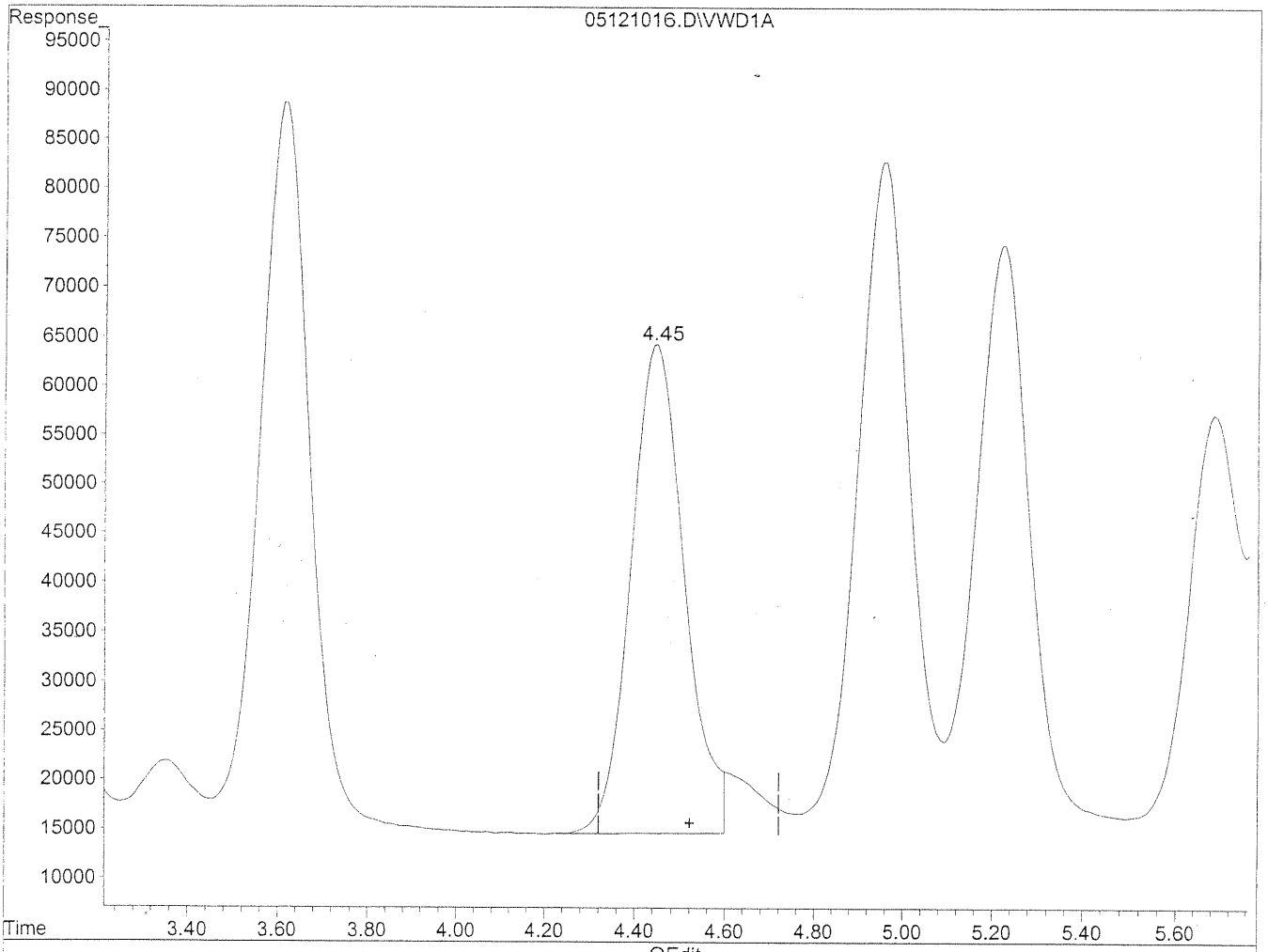
(+) = Expected Retention Time

05121016.D TO110510.M Thu May 13 11:25:15 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121016.D Vial: 129
Acq On : 12-May-2010, 14:54 Operator: MD
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:25 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.45min 1489.382ng/ml m

response 3993221

HC 5/19/10

Sh 5/13/10

(+) = Expected Retention Time

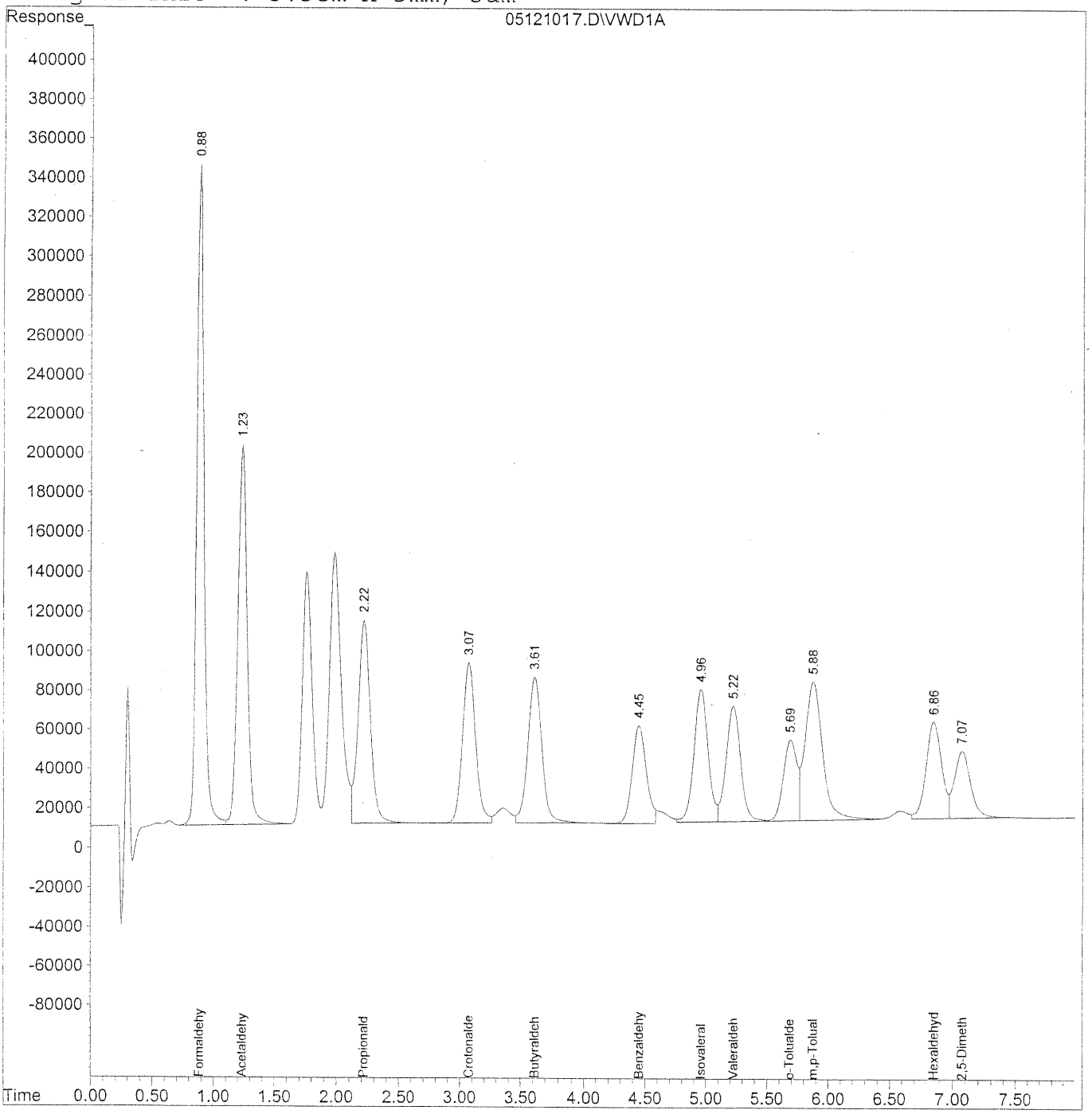
05121016.D TO110510.M Thu May 13 11:25:20 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121017.D Vial: 129
Acq On : 12-May-2010, 15:04 Operator: MD
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:25 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121017.D Vial: 129
Acq On : 12-May-2010, 15:04 Operator: MD
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:25 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

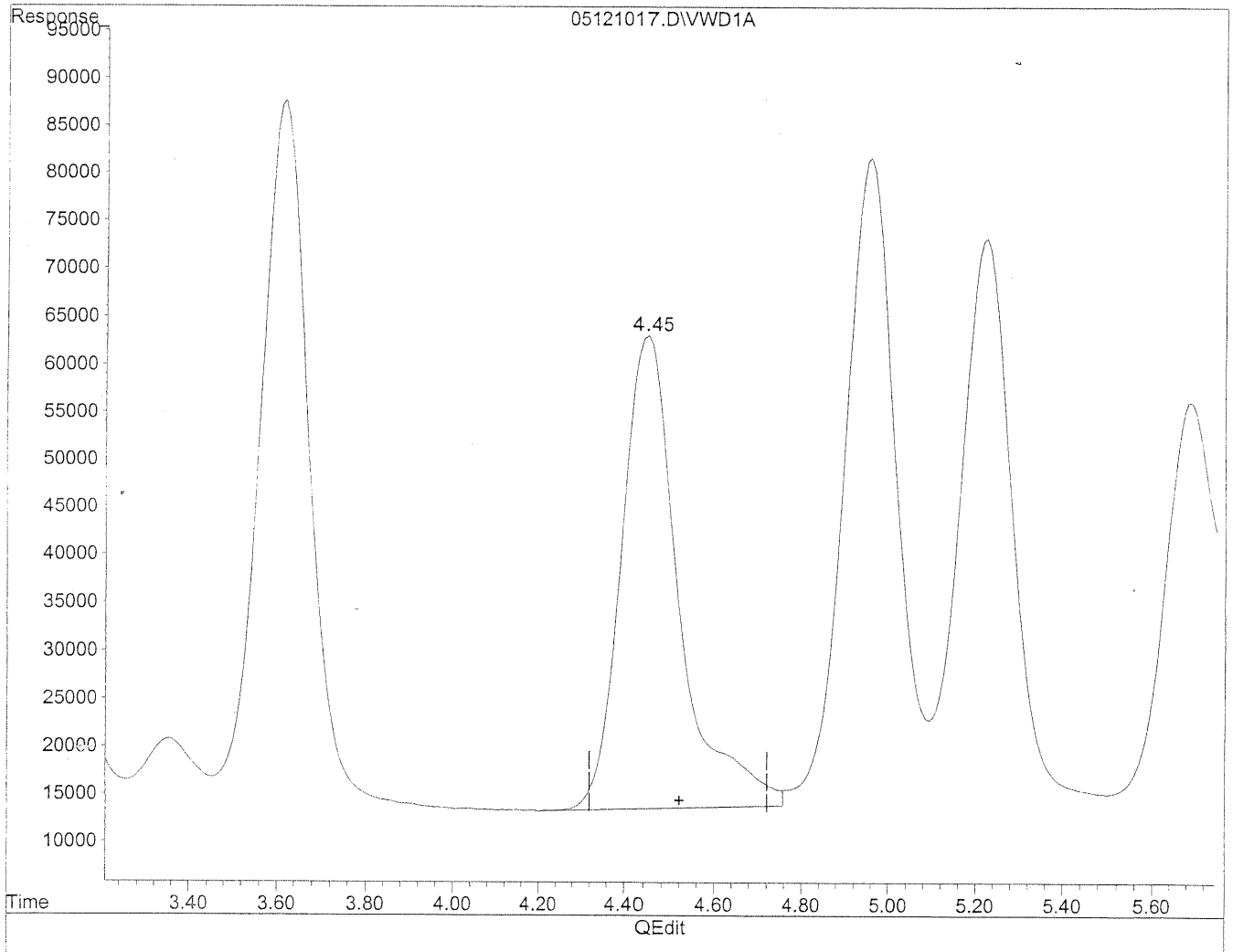
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	13880198	1486.770	ng/ml
2)	Acetaldehyde	1.24	10143044	1505.300	ng/ml
3)	Propionaldehyde	2.22	7213023	1482.065	ng/ml
4)	Crotonaldehyde	3.08	6140533	1505.032	ng/ml
5)	Butyraldehyde	3.62	5843556	1448.920	ng/ml
6)	Benzaldehyde	4.45	3948746	1473.457	ng/mlm
7)	Isovaleraldehyde	4.96	5511869	1554.201	ng/ml
8)	Valeraldehyde	5.23	4855903	1448.388	ng/ml
9)	o-Tolualdehyde	5.69	3151083	1549.468	ng/ml
10)	m,p-Tolualdehyde	5.88	7177715	3070.039	ng/ml
11)	Hexaldehyde	6.86	4141107	1438.771	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.08	2995490	1565.413	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121017.D Vial: 129
Acq On : 12-May-2010, 15:04 Operator: MD
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:25 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.45min 1614.770ng/ml

response 4327454

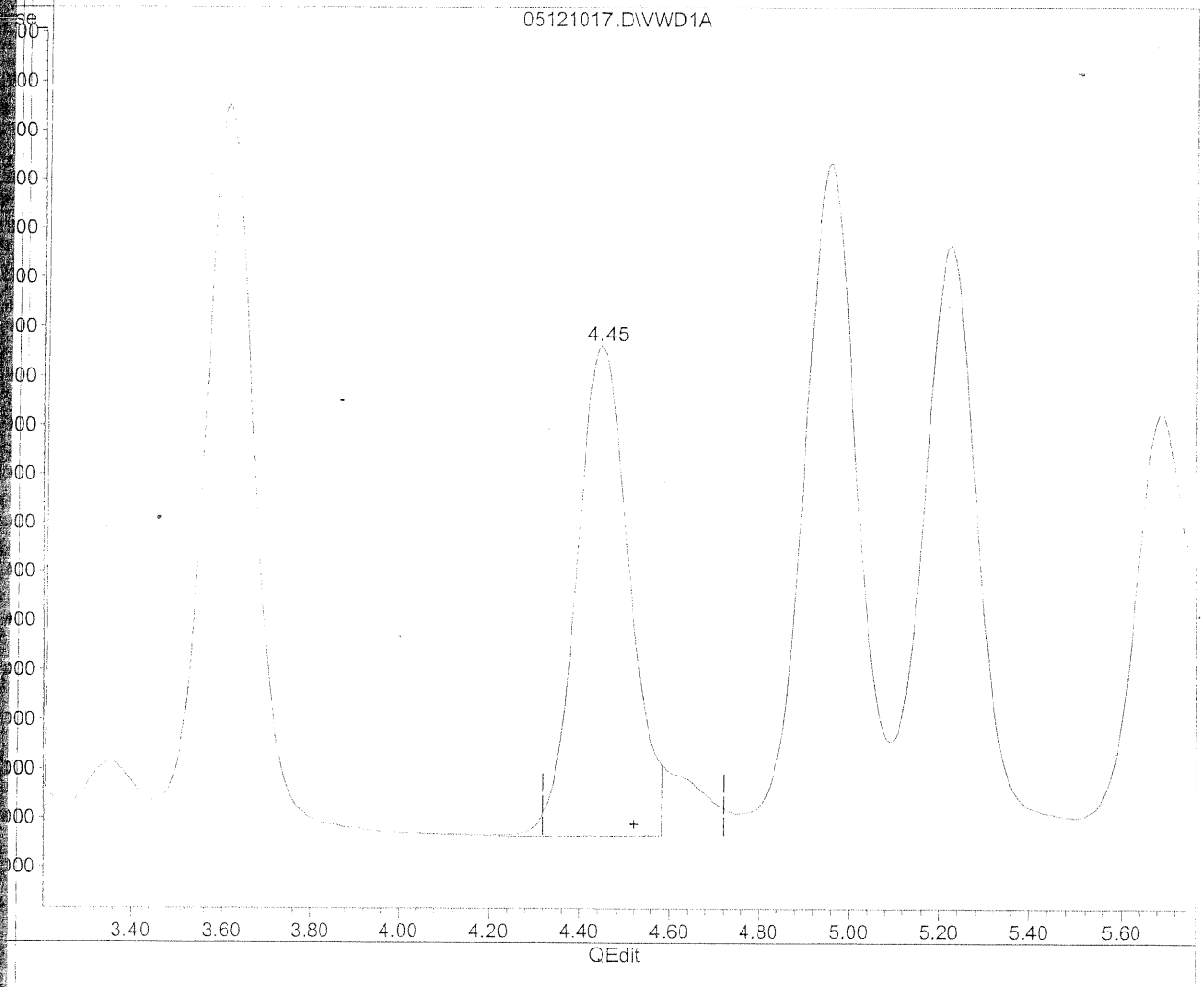
(+) = Expected Retention Time

05121017.D TO110510.M Thu May 13 11:25:52 2010

Quantitation Report

ta File : J:\LC02\DATA\TO11A\2010_05\12\05121017.D Vial: 129
q On : 12-May-2010, 15:04 Operator: MD
mple : 1500ng/ml TO-11A S21-04211003 Inst : VWD
sc : Multiplr: 1.00
tFile : events.e
ant Time: May 13 11:25 19110 Quant Results File: TO110510.RES

thod : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
tle : LC-1050 TO-11A ICAL
st Update : Wed May 12 13:15:37 2010
sponse via : Multiple Level Calibration



(6) Benzaldehyde

4.45min 1473.457ng/ml m

response 3948746

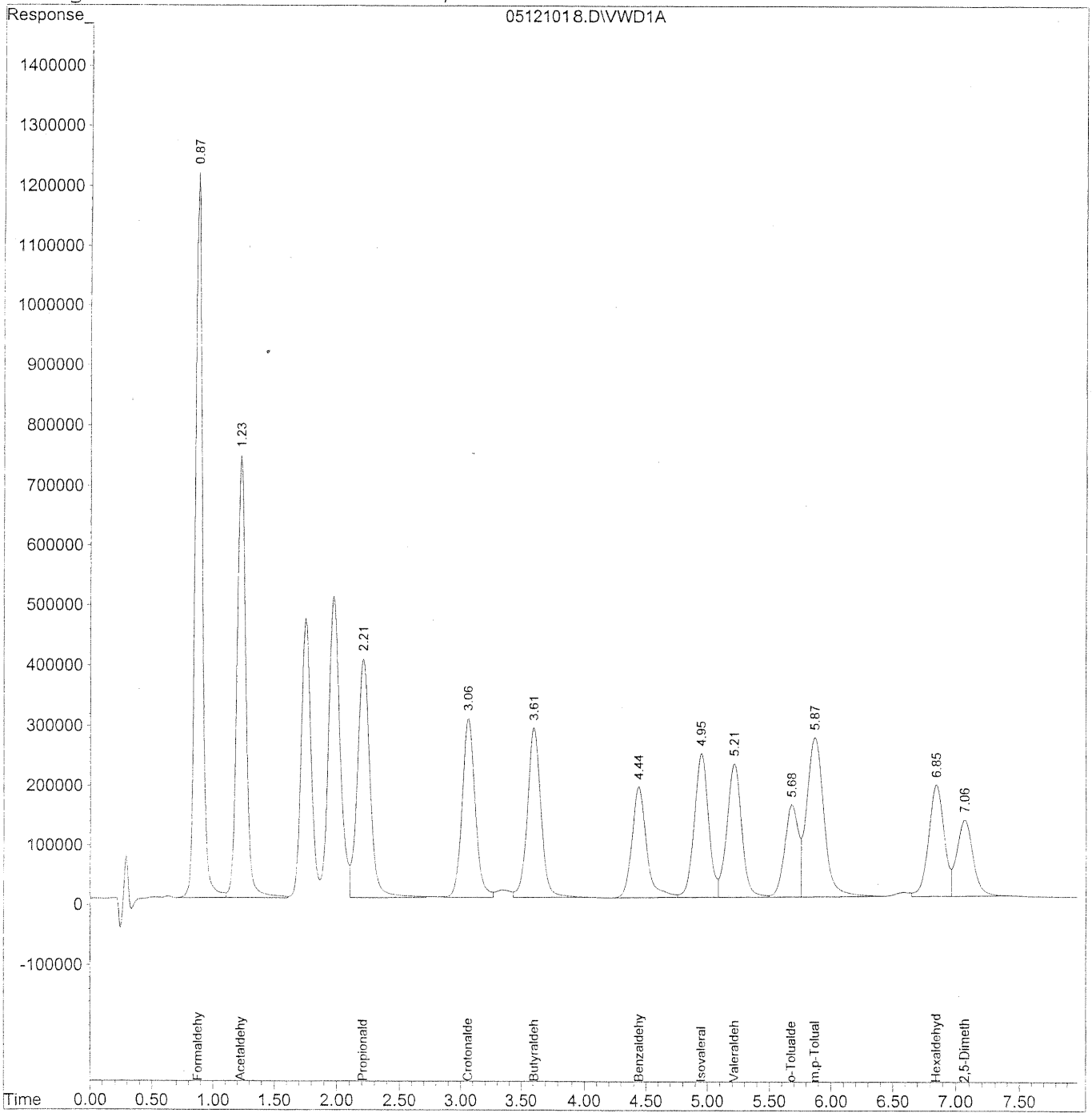
= Expected Retention Time

21017.D TO110510.M Thu May 13 11:25:59 2010

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121018.D Vial: 130
Acq On : 12-May-2010, 15:15 Operator: MD
Sample : 5000ng/ml TO-11A S21-03091001 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:26 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121018.D Vial: 130
Acq On : 12-May-2010, 15:15 Operator: MD
Sample : 5000ng/ml TO-11A S21-03091001 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:26 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Formaldehyde	0.88	49980790	5355.356	ng/ml
2)	Acetaldehyde	1.23	36771790	5459.670	ng/ml
3)	Propionaldehyde	2.21	28171144	5794.411	ng/ml
4)	Crotonaldehyde	3.07	22456169	5509.574	ng/ml
5)	Butyraldehyde	3.61	22281068	5530.334	ng/ml
6)	Benzaldehyde	4.44	15502410	5789.083	ng/ml
7)	Isovaleraldehyde	4.95	19526448	5507.238	ng/ml
8)	Valeraldehyde	5.22	18553441	5536.877	ng/ml
9)	o-Tolualdehyde	5.68	11996880	5902.899	ng/ml
10)	m,p-Tolualdehyde	5.87	26379068	11286.094	ng/ml
11)	Hexaldehyde	6.85	15727653	5466.423	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.07	11069374	5792.185	ng/ml

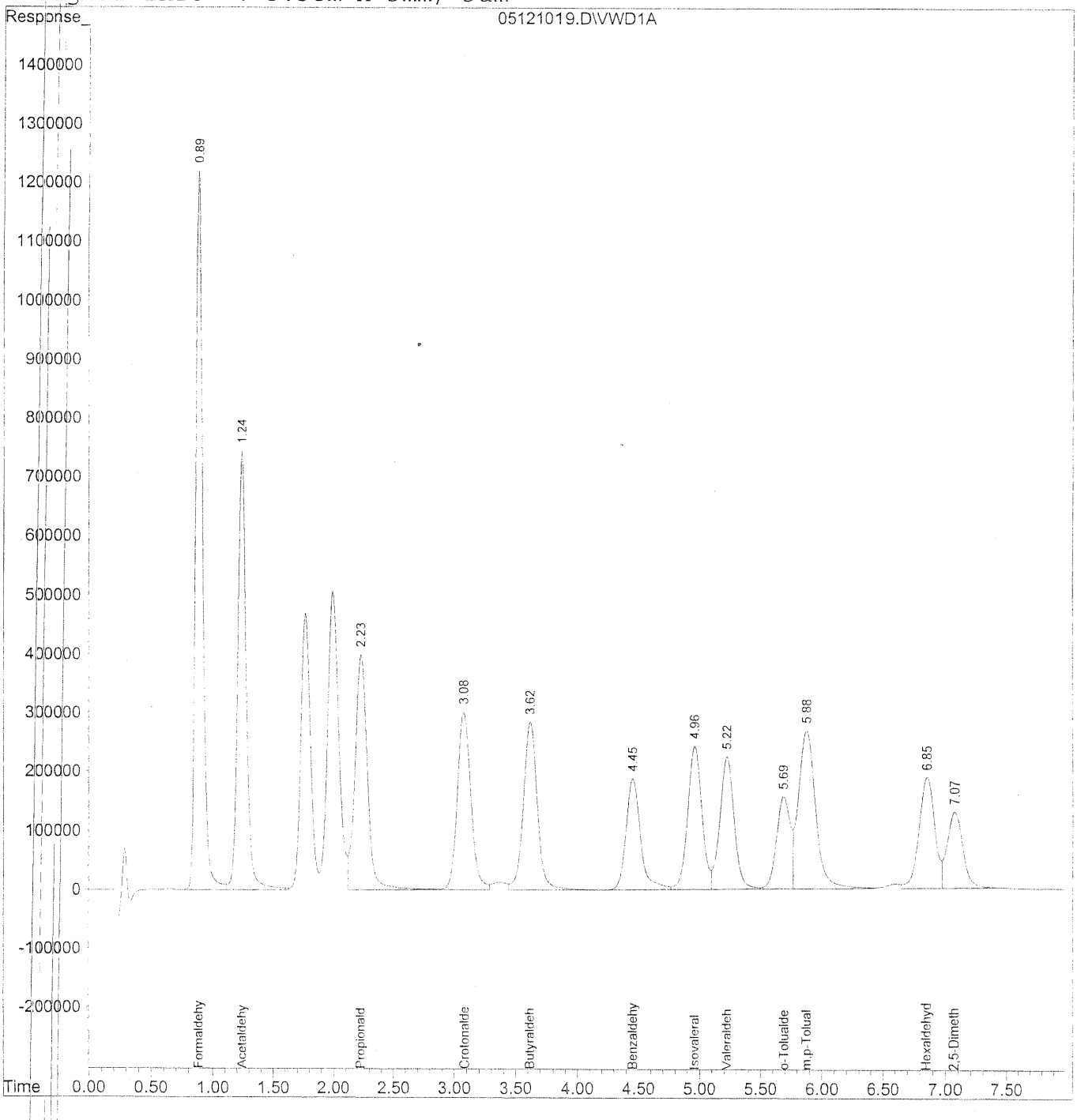
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121019.D Vial: 130
Acq On : 12-May-2010, 15:55 Operator: MD
Sample : 5000ng/ml TO-11A S21-03091001 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:26 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121019.D Vial: 130
Acq On : 12-May-2010, 15:55 Operator: MD
Sample : 5000ng/ml TO-11A S21-03091001 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:26 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	50223054	5385.515	ng/ml
2)	Acetaldehyde	1.24	37132798	5520.107	ng/ml
3)	Propionaldehyde	2.23	28599753	5896.787	ng/ml
4)	Crotonaldehyde	3.08	22549780	5538.912	ng/ml
5)	Butyraldehyde	3.62	22489469	5590.384	ng/ml
6)	Benzaldehyde	4.45	15578511	5821.798	ng/ml
7)	Isovaleraldehyde	4.96	19643023	5544.916	ng/ml
8)	Valeraldehyde	5.23	18591208	5552.388	ng/ml
9)	o-Tolualdehyde	5.69	12054706	5937.495	ng/ml
10)	m,p-Tolualdehyde	5.88	26529991	11365.707	ng/ml
11)	Hexaldehyde	6.86	15876497	5526.796	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.07	11117624	5830.839	ng/ml

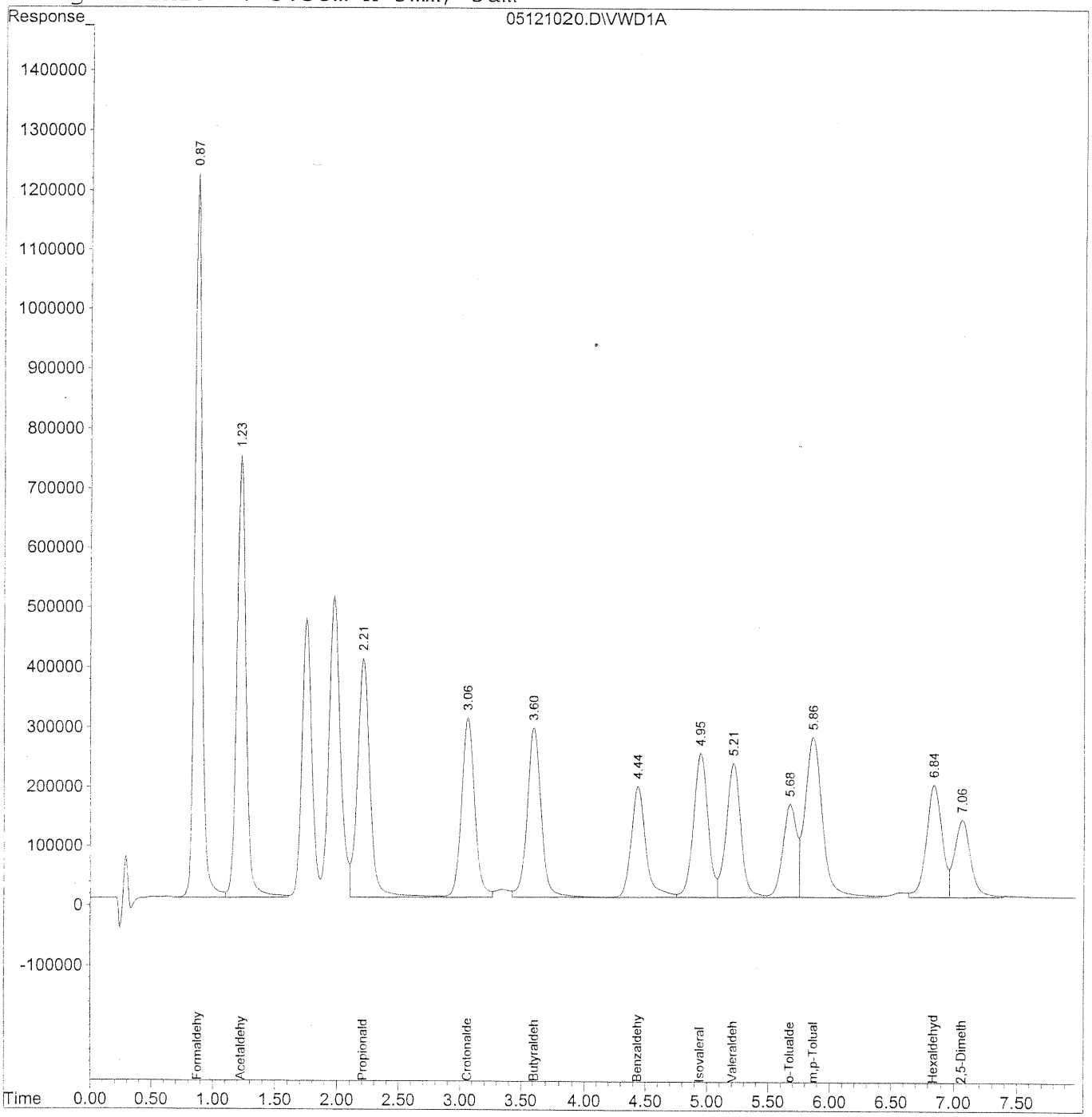
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121020.D Vial: 130
Acq On : 12-May-2010, 16:05 Operator: MD
Sample : 5000ng/ml TO-11A S21-03091001 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:27 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121020.D Vial: 130
Acq On : 12-May-2010, 16:05 Operator: MD
Sample : 5000ng/ml TO-11A S21-03091001 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:27 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

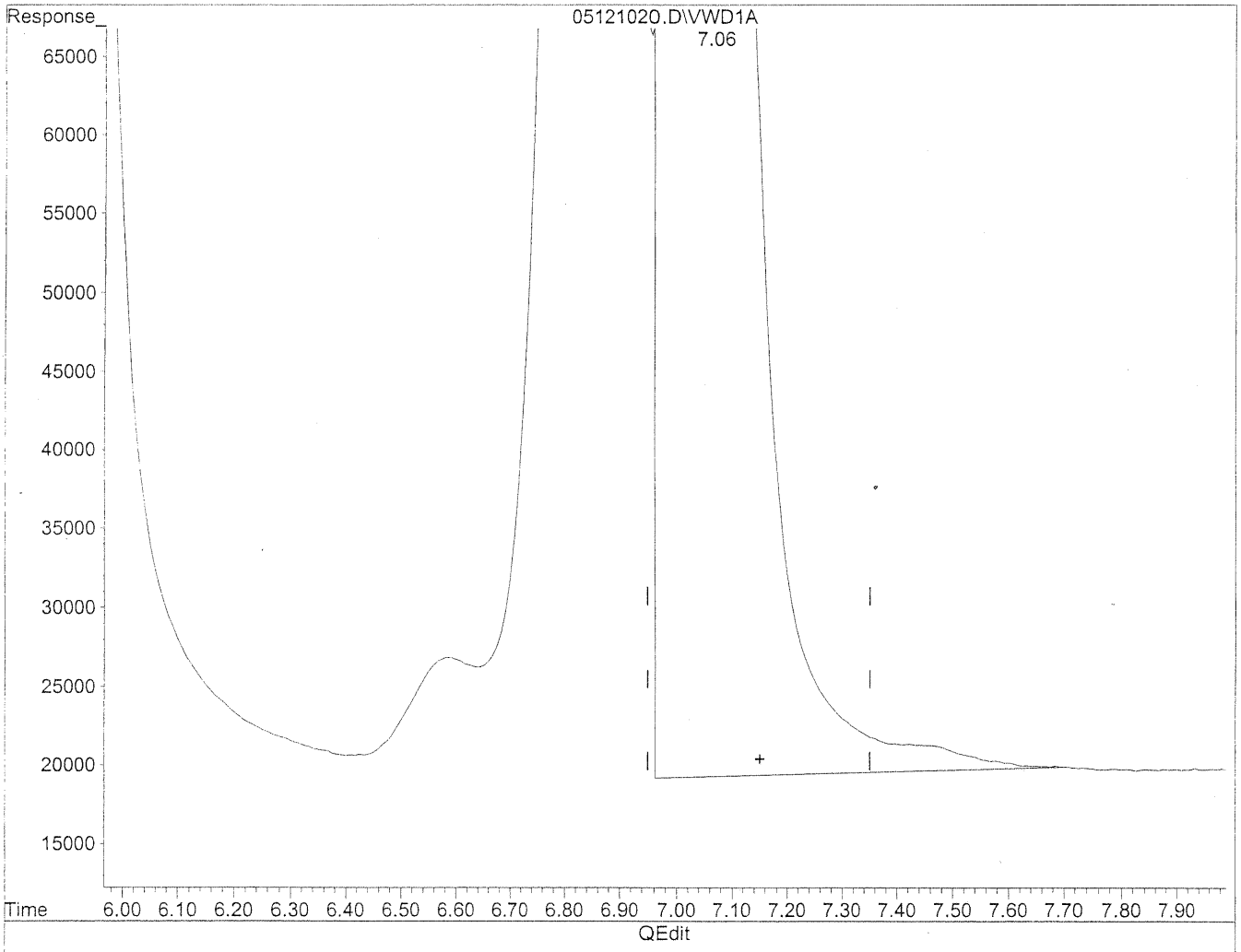
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	50395021	5401.617	ng/ml
2)	Acetaldehyde	1.23	37166980	5520.251	ng/ml
3)	Propionaldehyde	2.21	28819385	5933.332	ng/ml
4)	Crotonaldehyde	3.07	22800716	5598.404	ng/ml
5)	Butyraldehyde	3.61	22650396	5625.529	ng/ml
6)	Benzaldehyde	4.44	15658234	5848.819	ng/ml
7)	Isovaleraldehyde	4.95	19734320	5567.634	ng/ml
8)	Valeraldehyde	5.21	18822519	5620.414	ng/ml
9)	o-Tolualdehyde	5.68	12188940	6000.763	ng/ml
10)	m,p-Tolualdehyde	5.87	26974841	11550.062	ng/ml
11)	Hexaldehyde	6.85	16102054	5600.478	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.06	11477886	6017.247	ng/mlm

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121020.D Vial: 130
Acq On : 12-May-2010, 16:05 Operator: MD
Sample : 5000ng/ml TO-11A S21-03091001 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:27 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.06min 6127.547ng/ml

response 11688282

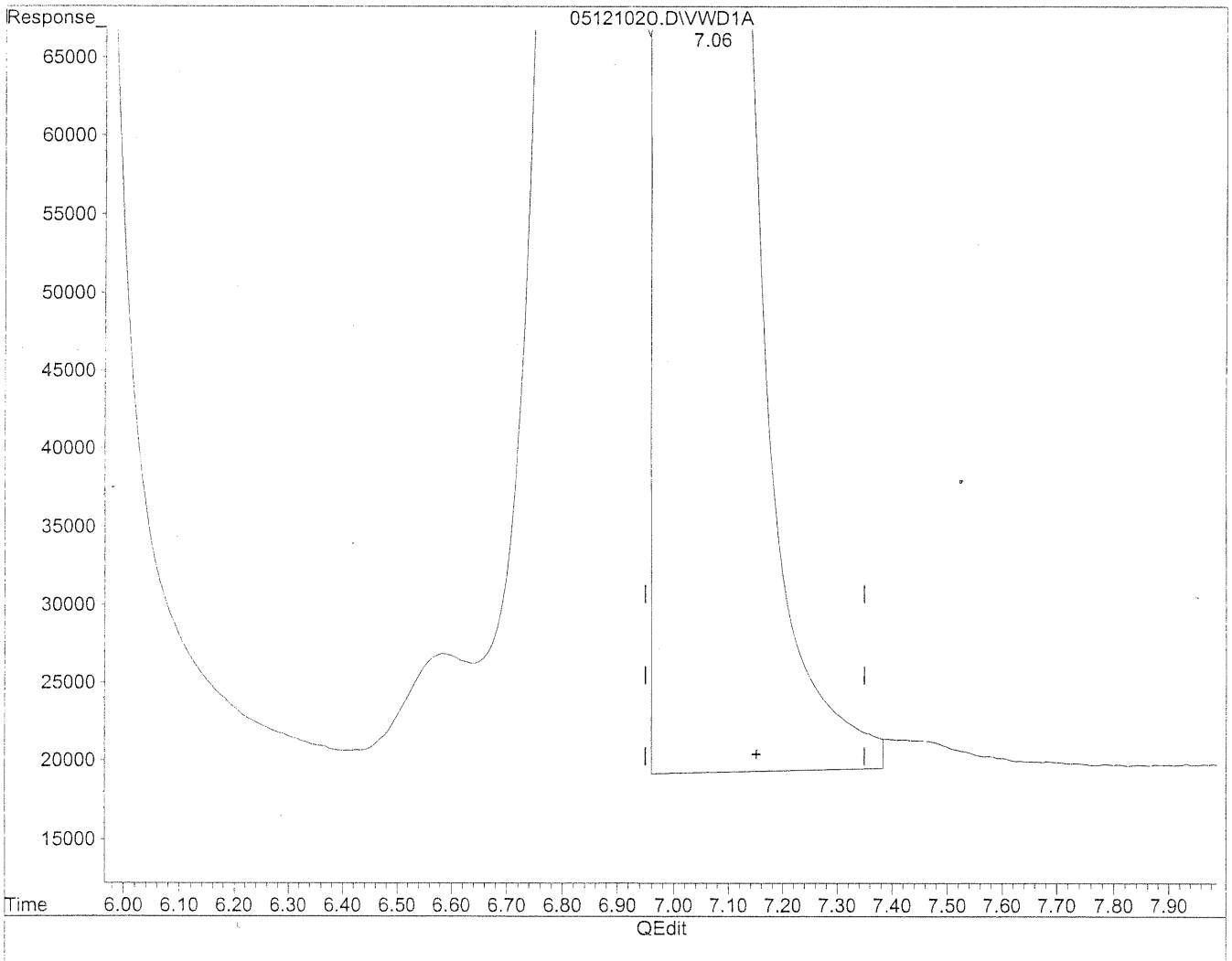
(+) = Expected Retention Time

05121020.D TO110510.M Thu May 13 11:27:33 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121020.D Vial: 130
Acq On : 12-May-2010, 16:05 Operator: MD
Sample : 5000ng/ml TO-11A S21-03091001 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:27 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.06min 6017.247ng/ml m

response 11477886

Sh 5/13/10

HC 5/19/10

(+) = Expected Retention Time

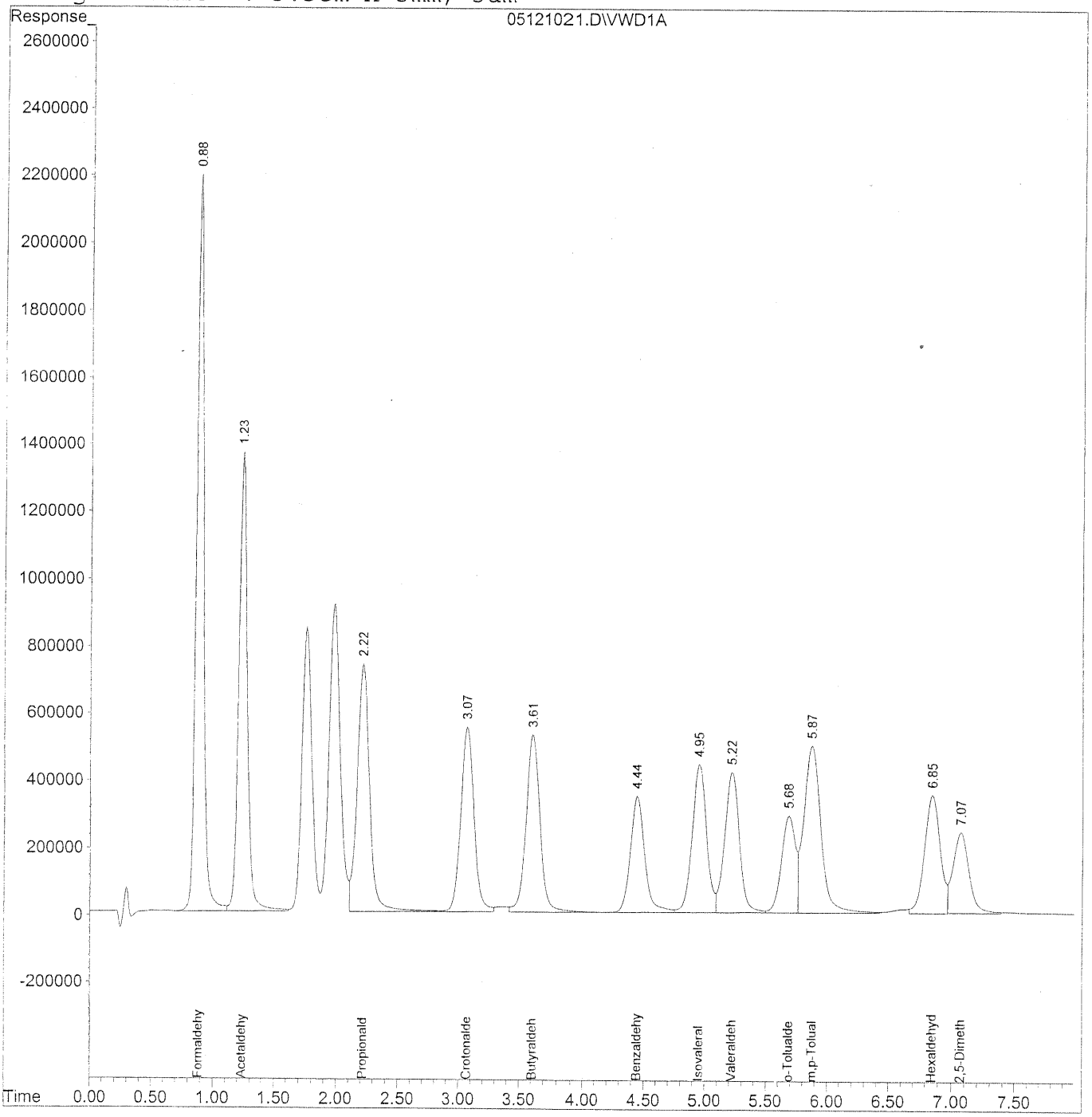
05121020.D TO110510.M Thu May 13 11:27:38 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121021.D Vial: 131
Acq On : 12-May-2010, 16:16 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:28 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121021.D Vial: 131
Acq On : 12-May-2010, 16:16 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:28 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

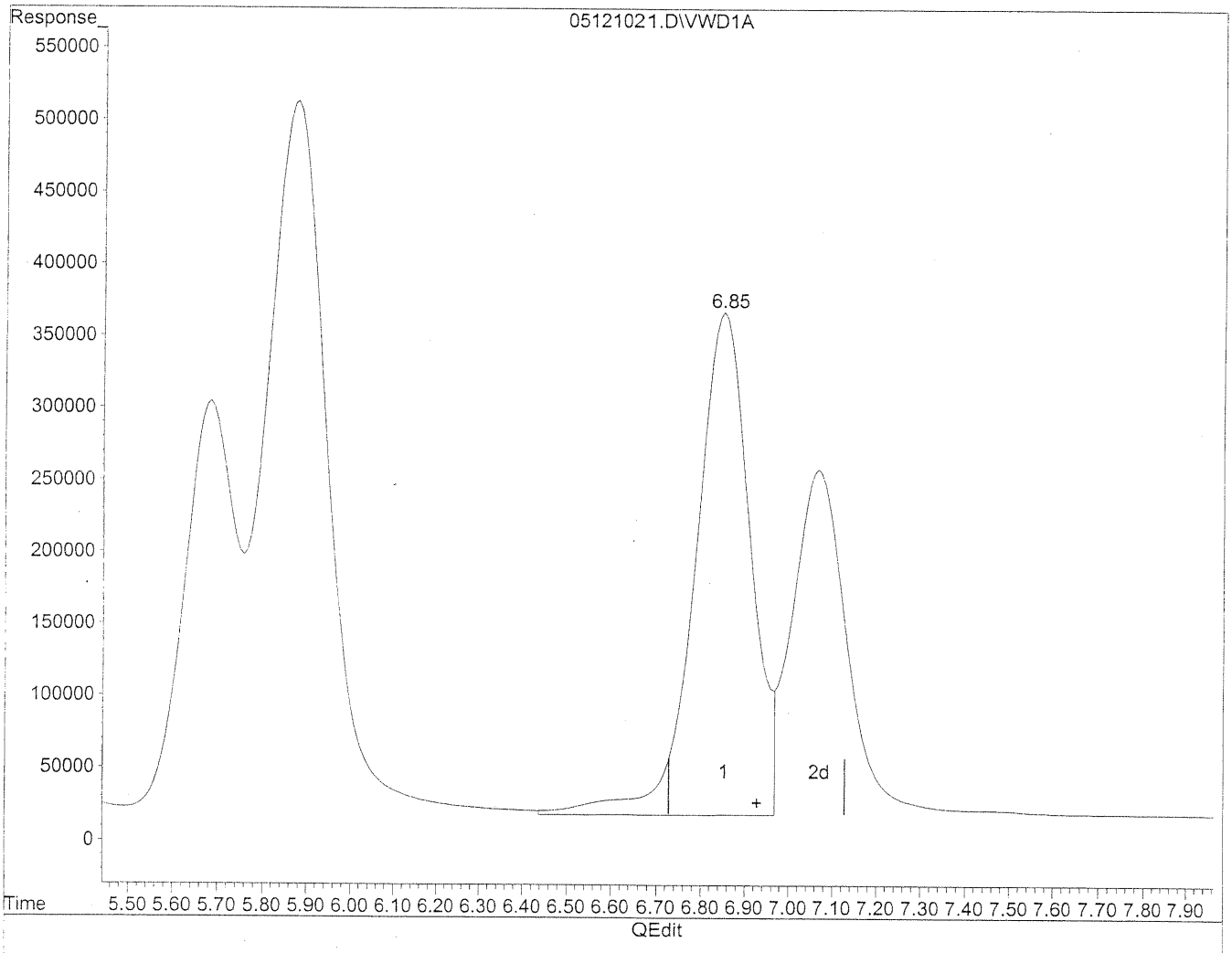
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	90709672	9719.371	ng/ml
2)	Acetaldehyde	1.24	66890029	9931.369	ng/ml
3)	Propionaldehyde	2.22	52244063	10745.336	ng/ml
4)	Crotonaldehyde	3.07	41174859	10101.717	ng/ml
5)	Butyraldehyde	3.61	41459691	10289.542	ng/ml
6)	Benzaldehyde	4.45	28054819	10474.194	ng/ml
7)	Isovaleraldehyde	4.96	35490040	10008.095	ng/ml
8)	Valeraldehyde	5.22	34502996	10294.068	ng/ml
9)	o-Tolualdehyde	5.69	22342247	10989.551	ng/ml
10)	m,p-Tolualdehyde	5.88	48892935	20909.052	ng/ml
11)	Hexaldehyde	6.85	29145211	10125.299	ng/mlm
12)	2,5-Dimethylbenzaldehyde	7.07	20767473	10862.963	ng/mlm

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121021.D Vial: 131
Acq On : 12-May-2010, 16:16 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:27 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.85min 10522.780ng/ml

response 30289342

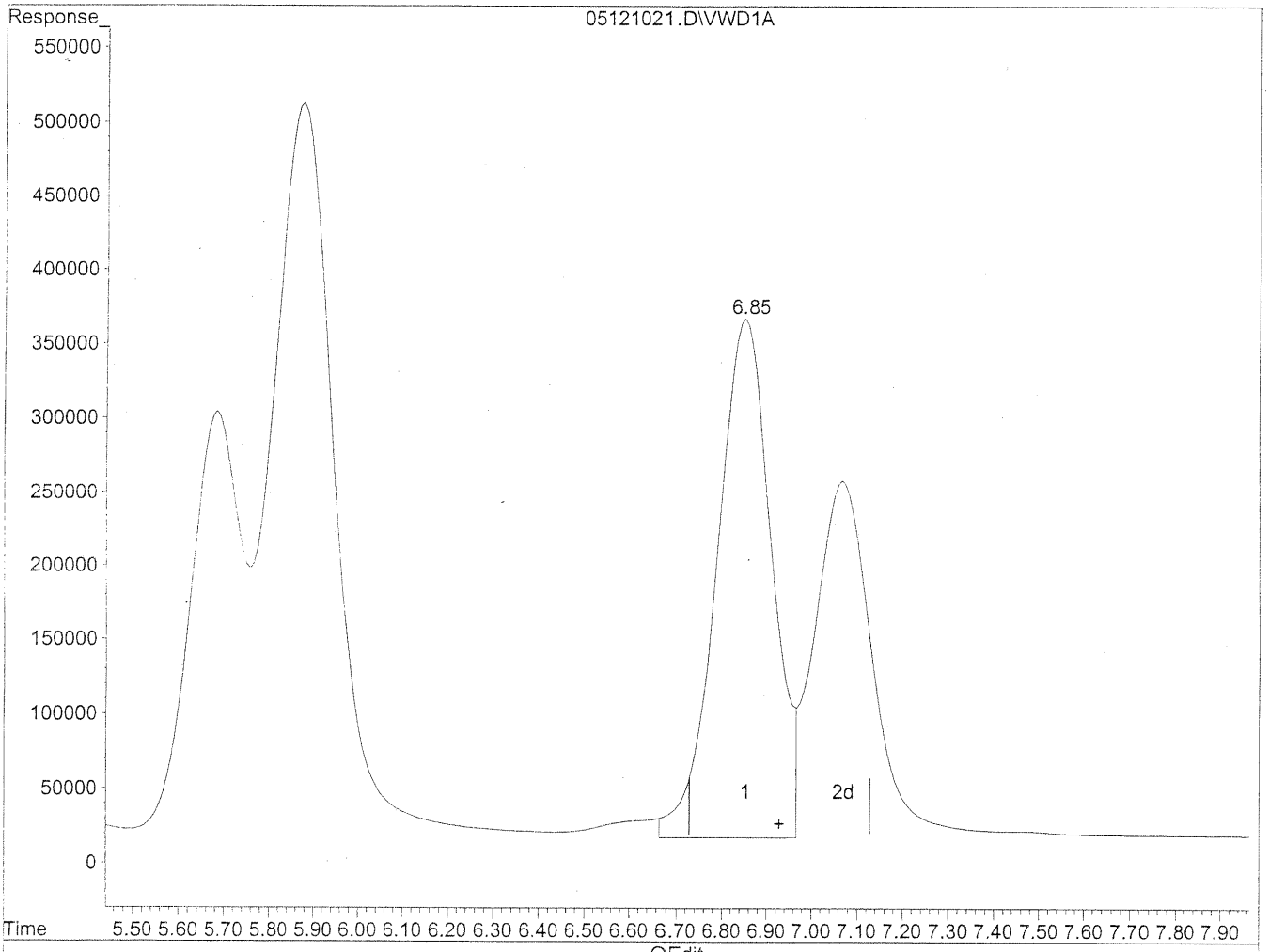
(+) = Expected Retention Time

05121021.D TO110510.M Thu May 13 11:28:03 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121021.D Vial: 131
Acq On : 12-May-2010, 16:16 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:27 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.85min 10125.299ng/ml m

response 29145211

Sh MM 5/13/10

HC 5/19/10

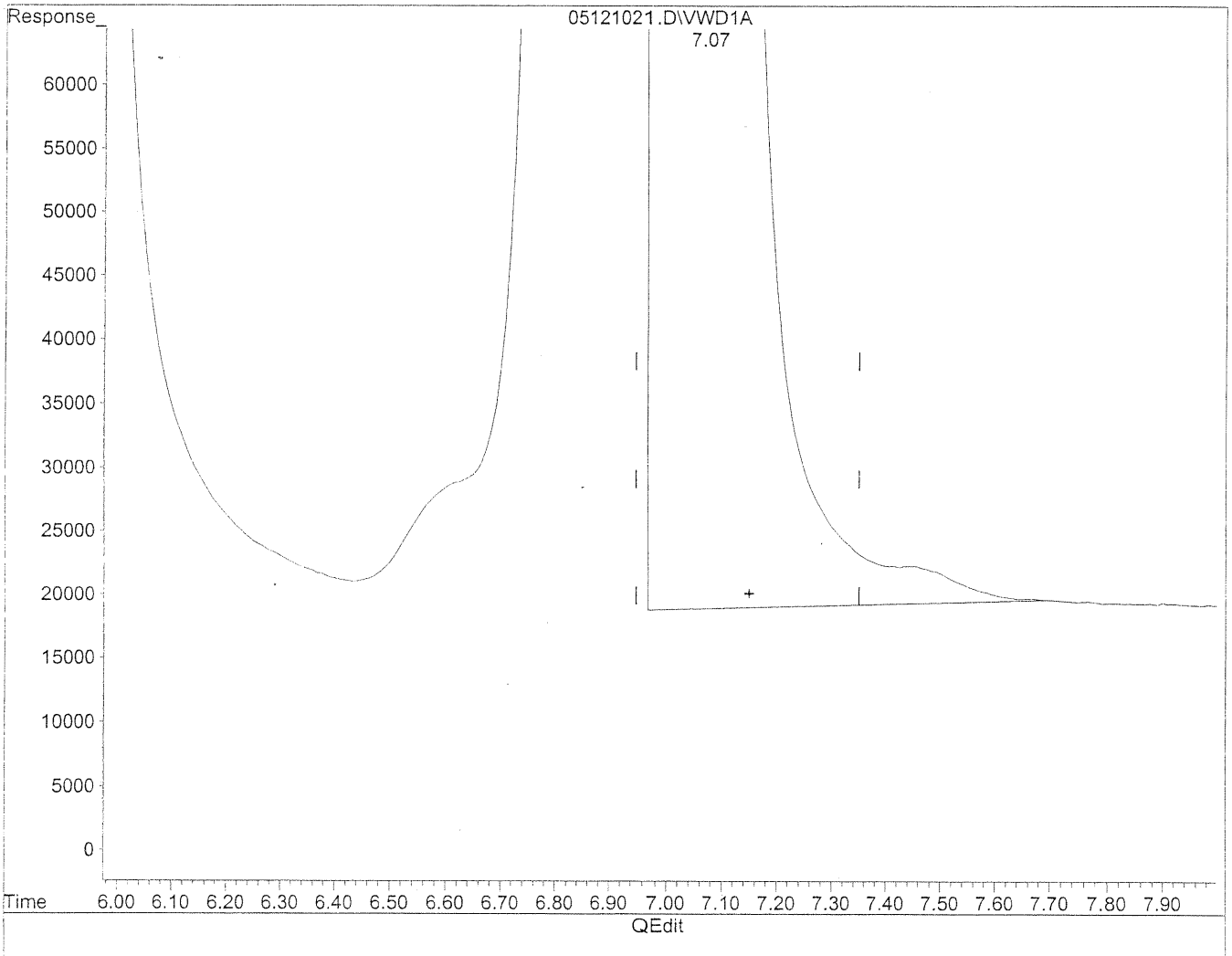
(+) = Expected Retention Time

05121021.D TO110510.M Thu May 13 11:28:08 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121021.D Vial: 131
Acq On : 12-May-2010, 16:16 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:27 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.07min 11093.435ng/ml

response 21208083

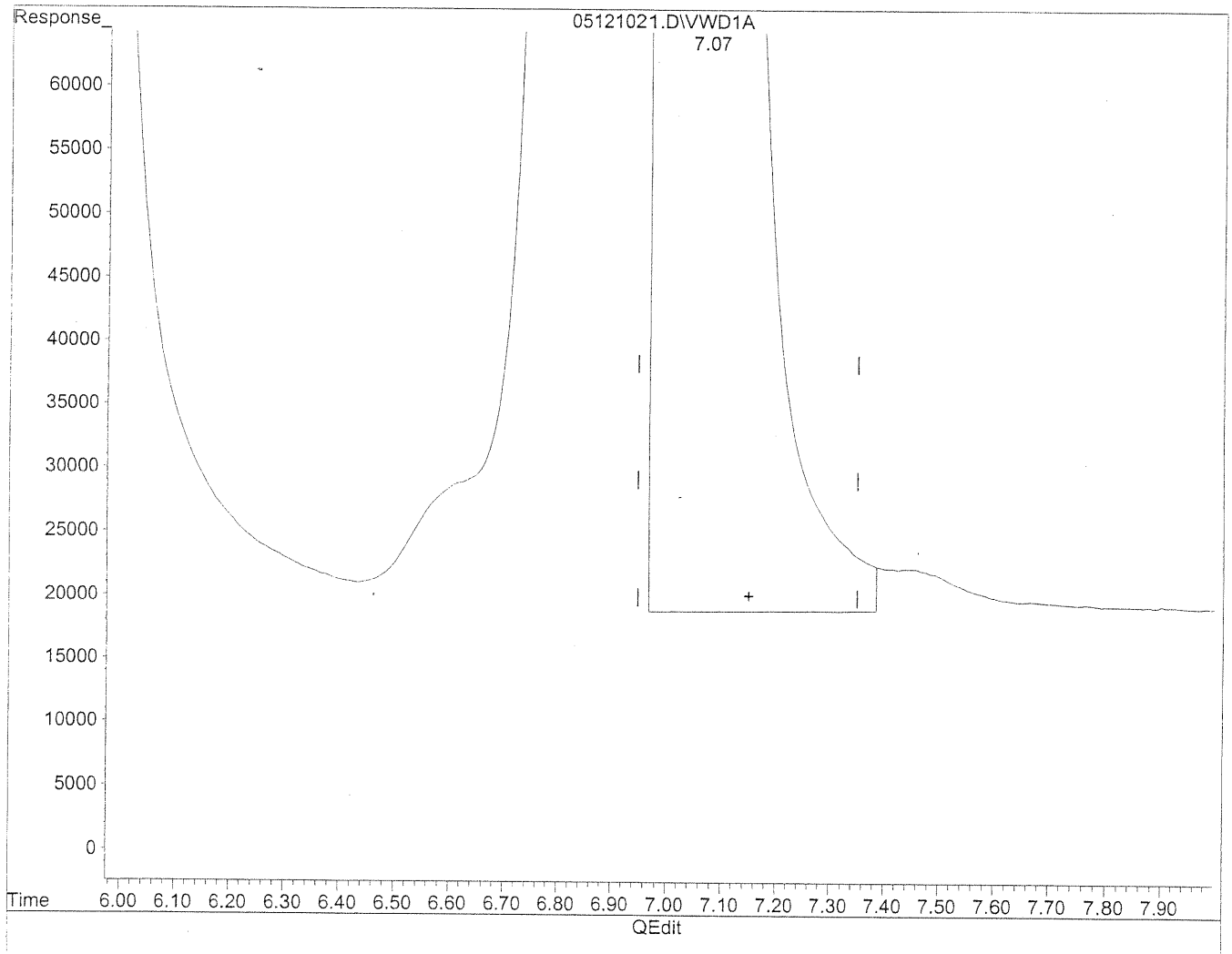
(+) = Expected Retention Time

05121021.D TO110510.M Thu May 13 11:28:13 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121021.D Vial: 131
Acq On : 12-May-2010, 16:16 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:27 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.07min 10862.963ng/ml m

response 20767473

SH 5/13/10

HC 5/19/10

(+) = Expected Retention Time

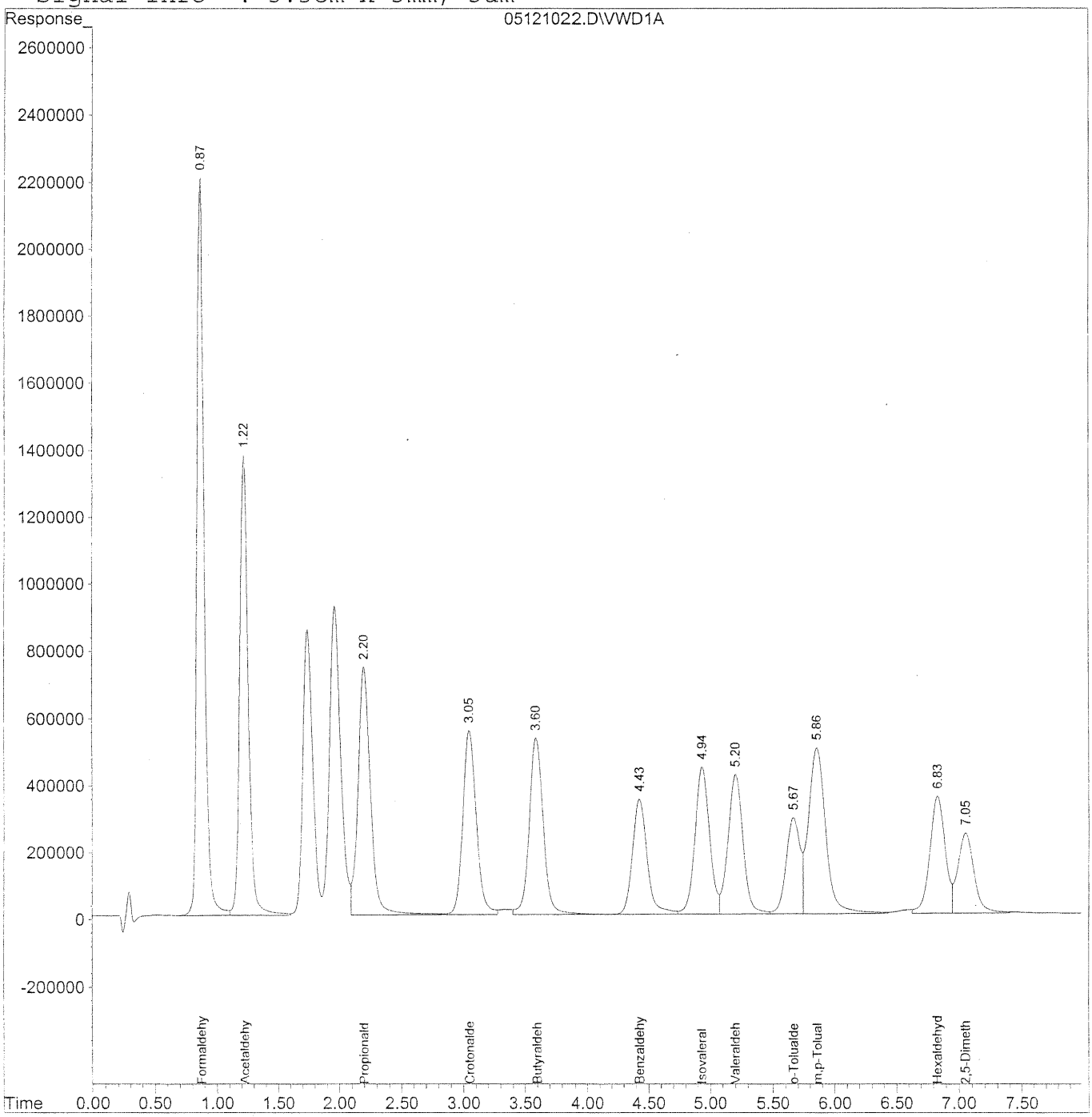
05121021.D TO110510.M Thu May 13 11:28:18 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121022.D Vial: 131
Acq On : 12-May-2010, 16:26 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:29 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121022.D Vial: 131
Acq On : 12-May-2010, 16:26 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:29 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

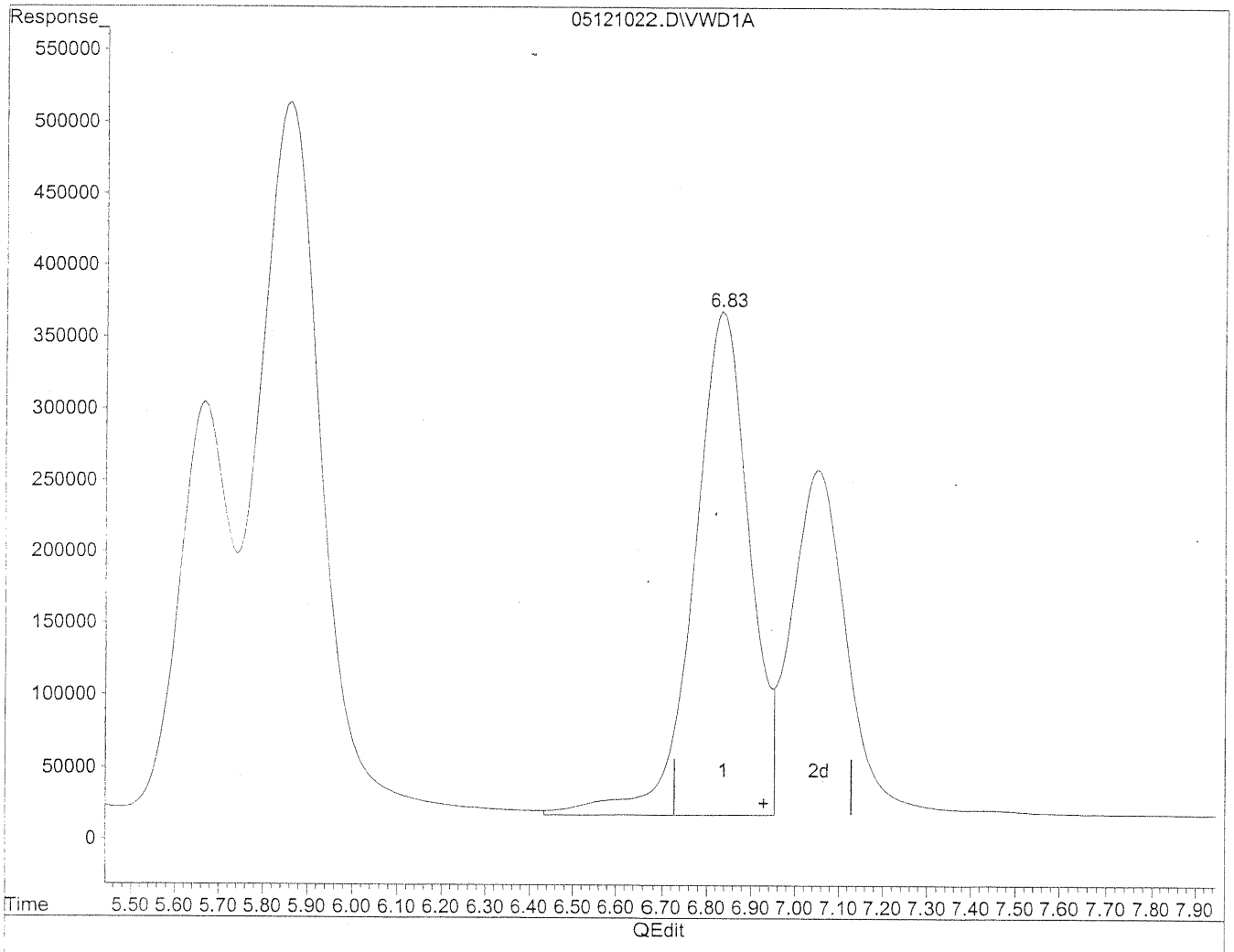
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	91183852	9777.376	ng/ml
2)	Acetaldehyde	1.23	67226101	9988.370	ng/ml
3)	Propionaldehyde	2.21	52545859	10813.558	ng/ml
4)	Crotonaldehyde	3.06	41390037	10161.984	ng/ml
5)	Butyraldehyde	3.60	41669737	10349.111	ng/ml
6)	Benzaldehyde	4.43	28191466	10529.148	ng/ml
7)	Isovaleraldehyde	4.94	35675923	10063.381	ng/ml
8)	Valeraldehyde	5.21	34690610	10349.339	ng/ml
9)	o-Tolualdehyde	5.67	22468352	11047.678	ng/ml
10)	m,p-Tolualdehyde	5.86	49151608	20998.470	ng/ml
11)	Hexaldehyde	6.83	29280568	10204.191	ng/mlm
12)	2,5-Dimethylbenzaldehyde	7.05	20997209	10967.450	ng/mlm

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121022.D Vial: 131
Acq On : 12-May-2010, 16:26 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:28 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.84min 10634.067ng/ml

response 30514082

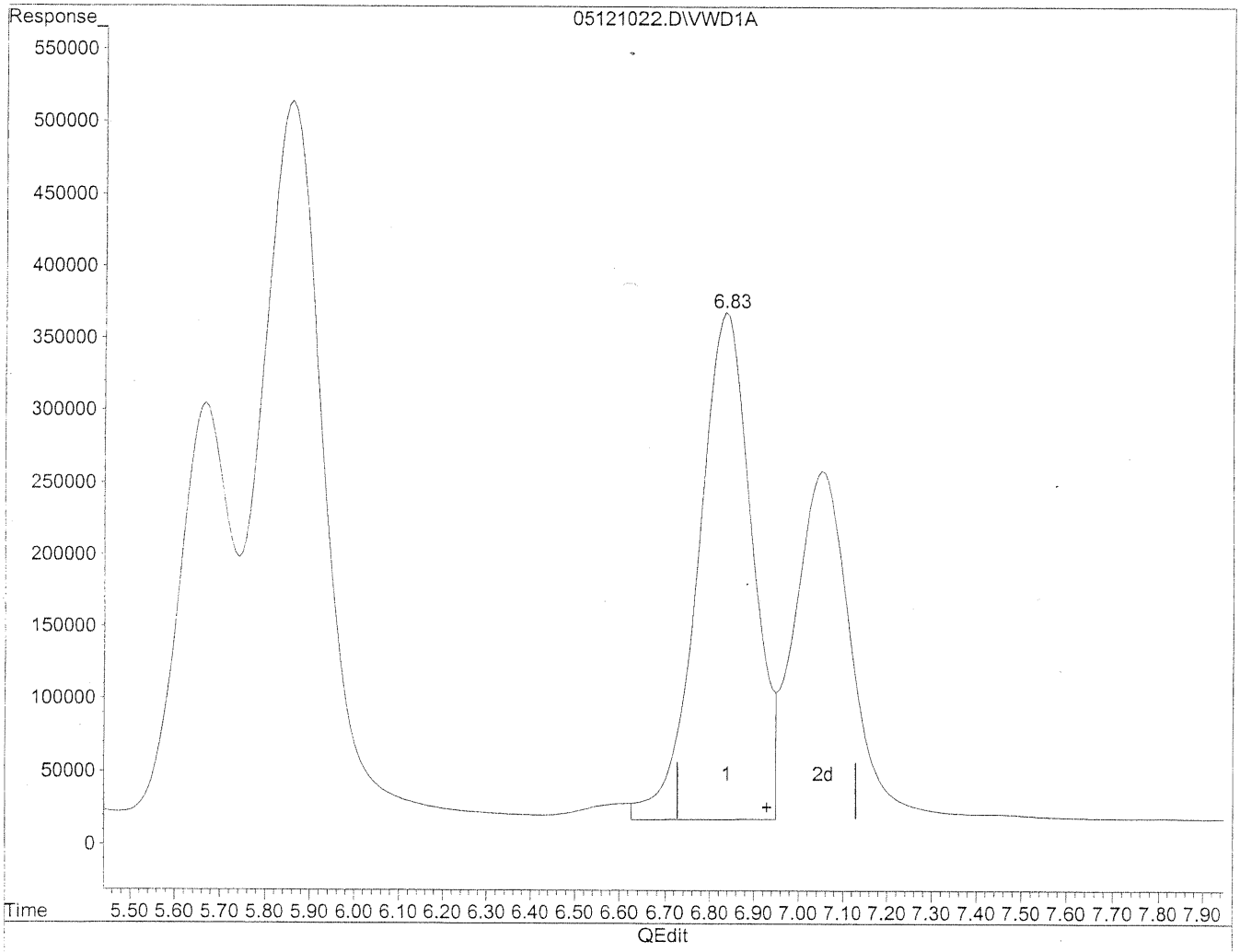
(+) = Expected Retention Time

05121022.D TO110510.M Thu May 13 11:28:43 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121022.D Vial: 131
Acq On : 12-May-2010, 16:26 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:28 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.83min 10204.191ng/ml m

response 29280568

5/13/10

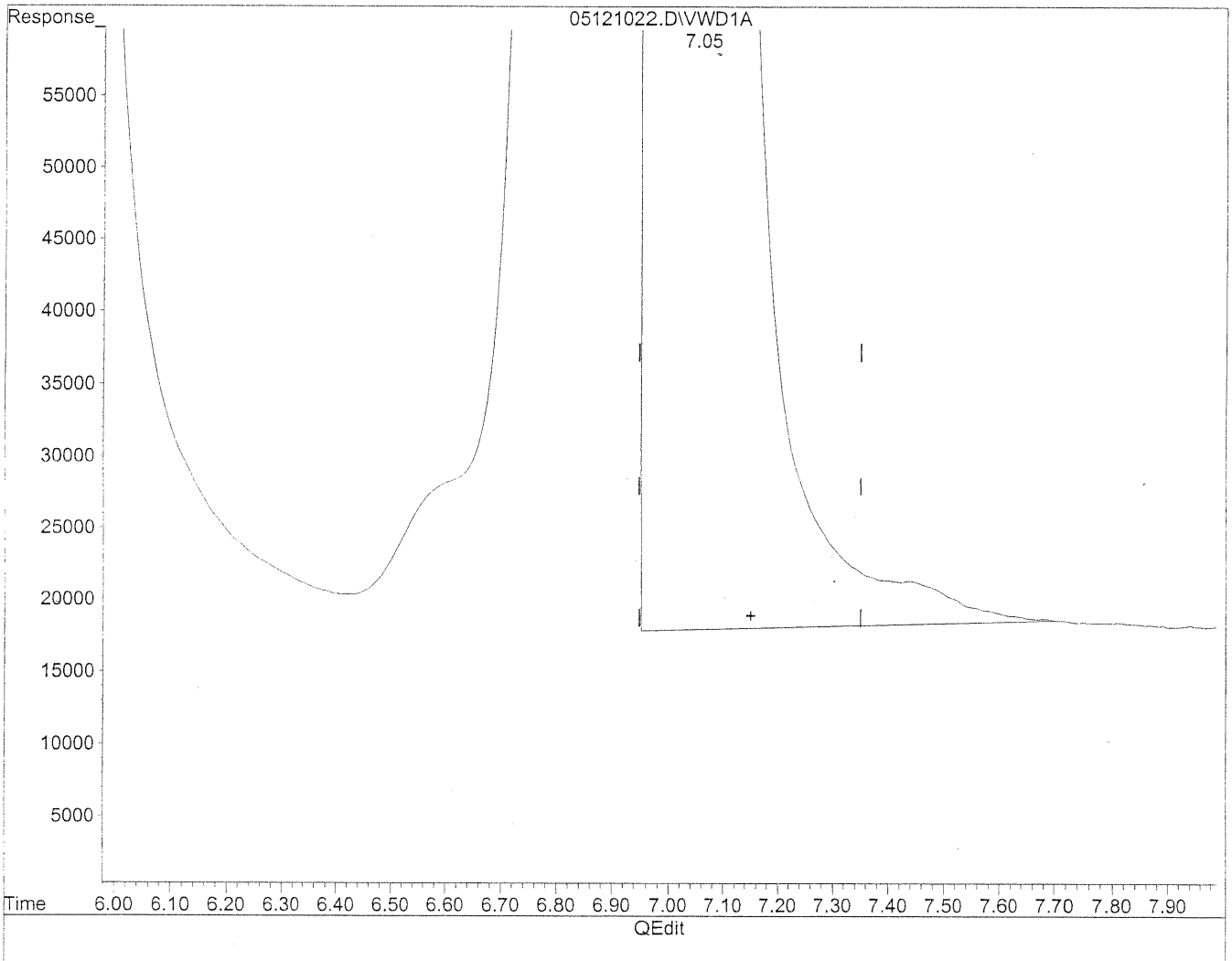
5-19-10

(+) = Expected Retention Time

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121022.D Vial: 131
Acq On : 12-May-2010, 16:26 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:28 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.06min 11160.548ng/ml

response 21366896

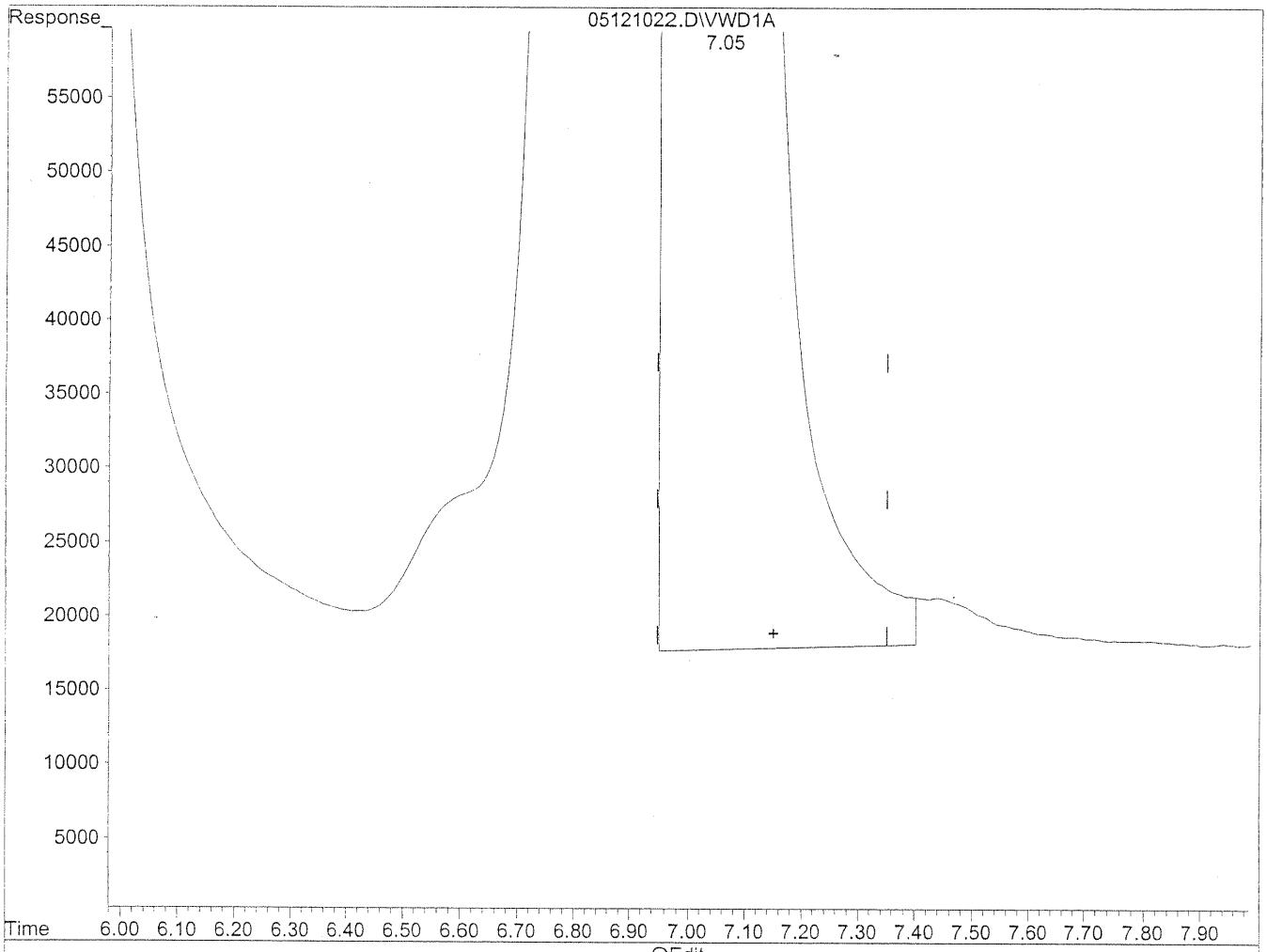
(+) = Expected Retention Time

05121022.D TO110510.M Thu May 13 11:29:02 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121022.D Vial: 131
Acq On : 12-May-2010, 16:26 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:28 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.05min 10967.450ng/ml m

response 20997209

Sh 5/13/10 HC 5/14/10

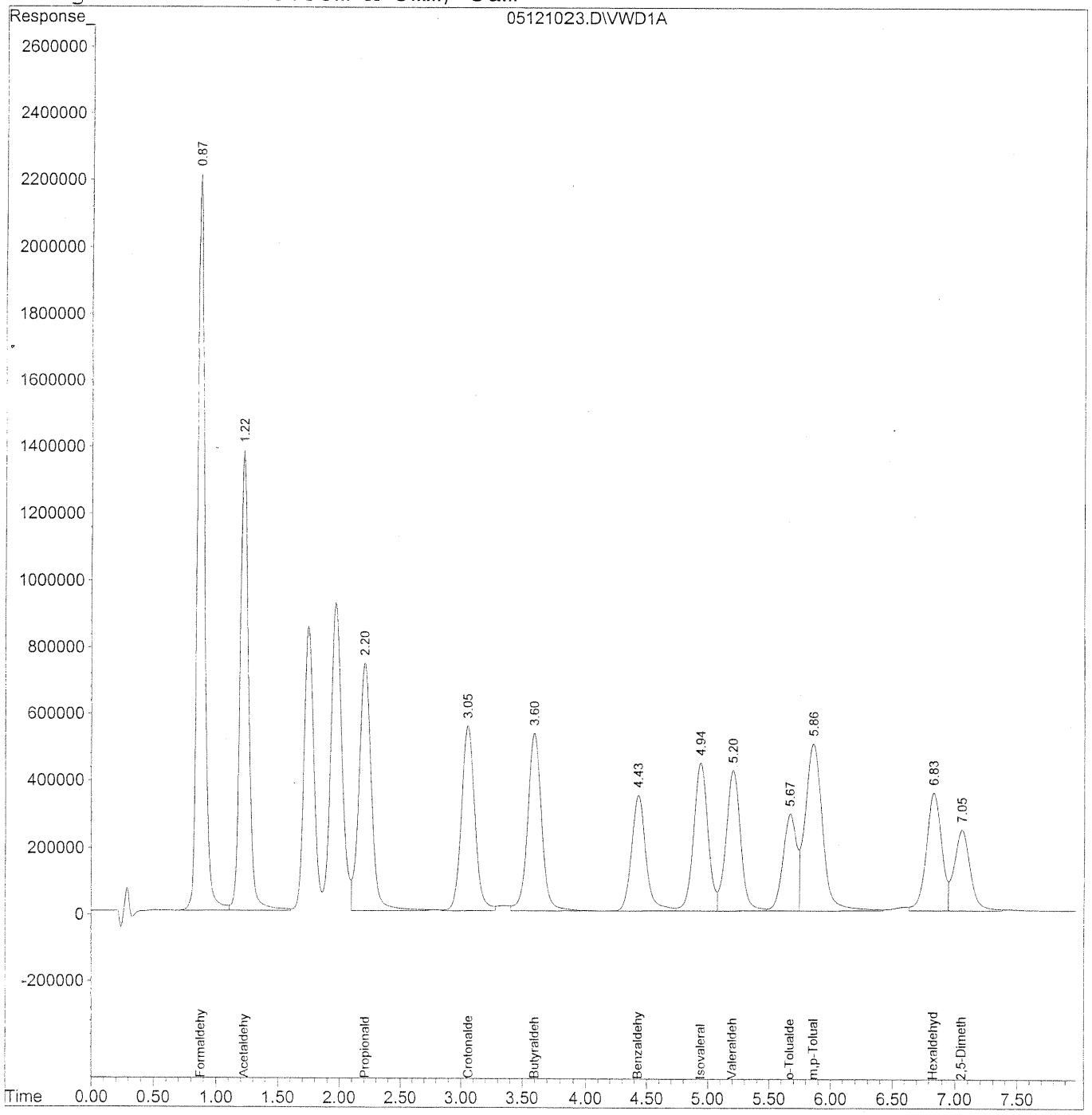
(+) = Expected Retention Time

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121023.D Vial: 131
Acq On : 12-May-2010, 16:37 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:29 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121023.D Vial: 131
Acq On : 12-May-2010, 16:37 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:29 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

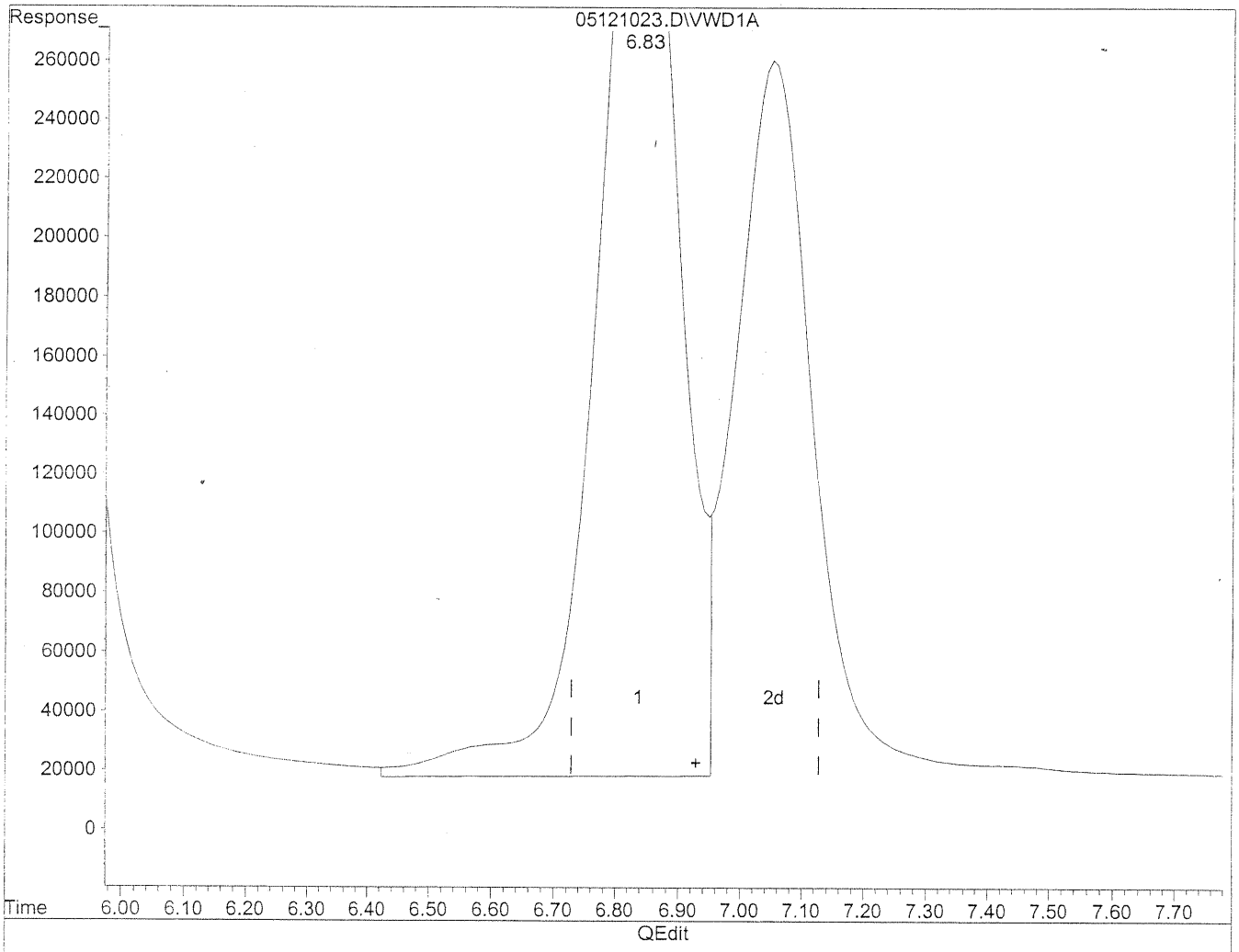
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	91472042	9804.123	ng/ml
2)	Acetaldehyde	1.23	67416123	10012.437	ng/ml
3)	Propionaldehyde	2.21	52440027	10786.196	ng/ml
4)	Crotonaldehyde	3.06	41499442	10184.361	ng/ml
5)	Butyraldehyde	3.60	41771054	10369.766	ng/ml
6)	Benzaldehyde	4.43	28269761	10553.902	ng/ml
7)	Isovaleraldehyde	4.94	35769102	10085.258	ng/ml
8)	Valeraldehyde	5.21	34792517	10374.902	ng/ml
9)	o-Tolualdehyde	5.67	22535528	11074.985	ng/ml
10)	m,p-Tolualdehyde	5.86	49312981	21057.715	ng/ml
11)	Hexaldehyde	6.83	30073334	10476.349	ng/mlm
12)	2,5-Dimethylbenzaldehyde	7.05	21232541	11079.292	ng/mlm

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121023.D Vial: 131
Acq On : 12-May-2010, 16:37 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.84min 10671.617ng/ml

response 30633869

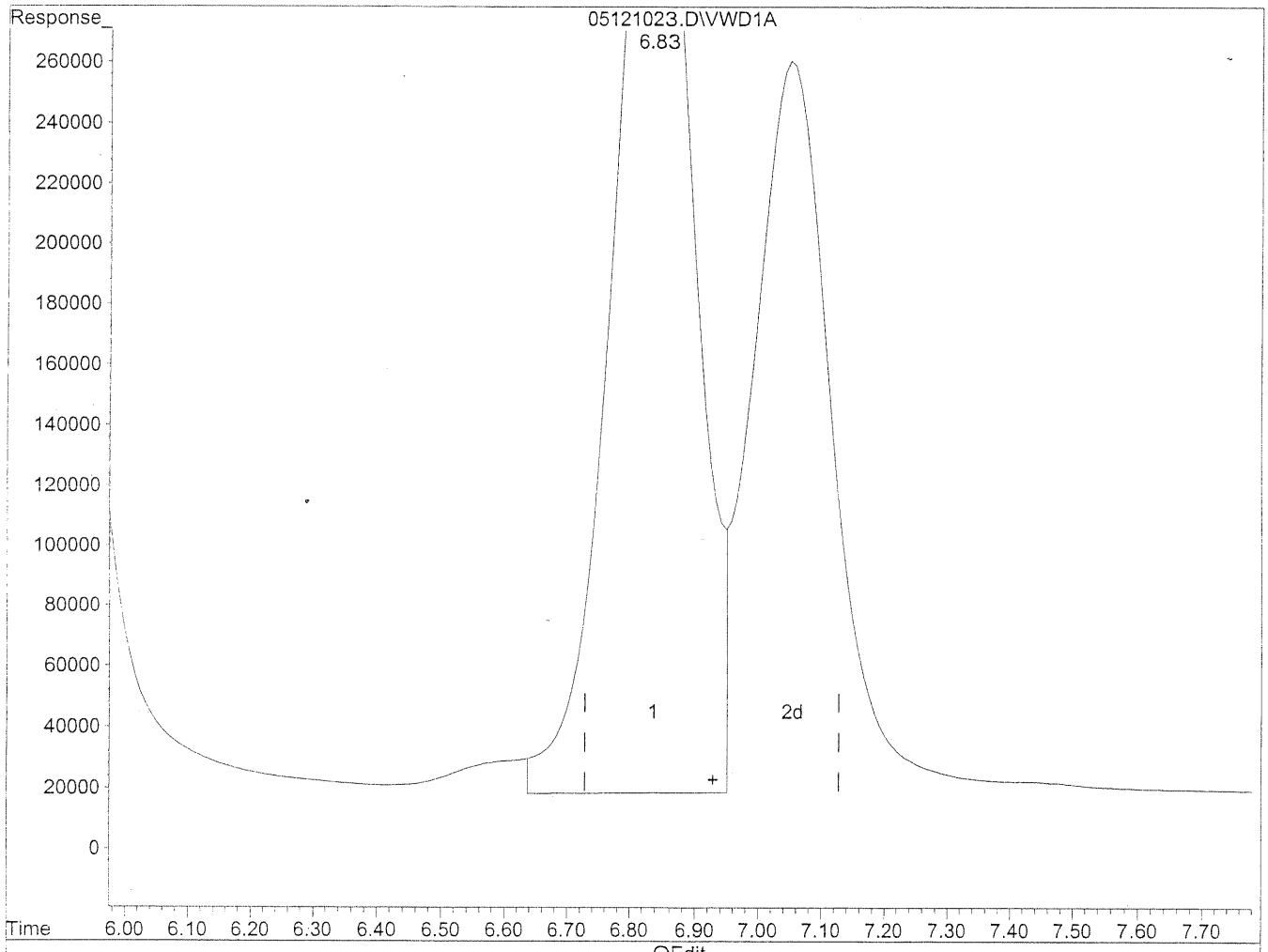
(+) = Expected Retention Time

05121023.D TO110510.M Thu May 13 11:29:36 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121023.D Vial: 131
Acq On : 12-May-2010, 16:37 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



QEdit

(11) Hexaldehyde

6.83min 10476.349ng/ml m

response 30073334

Sh 5/13/10 HC 5/19/10

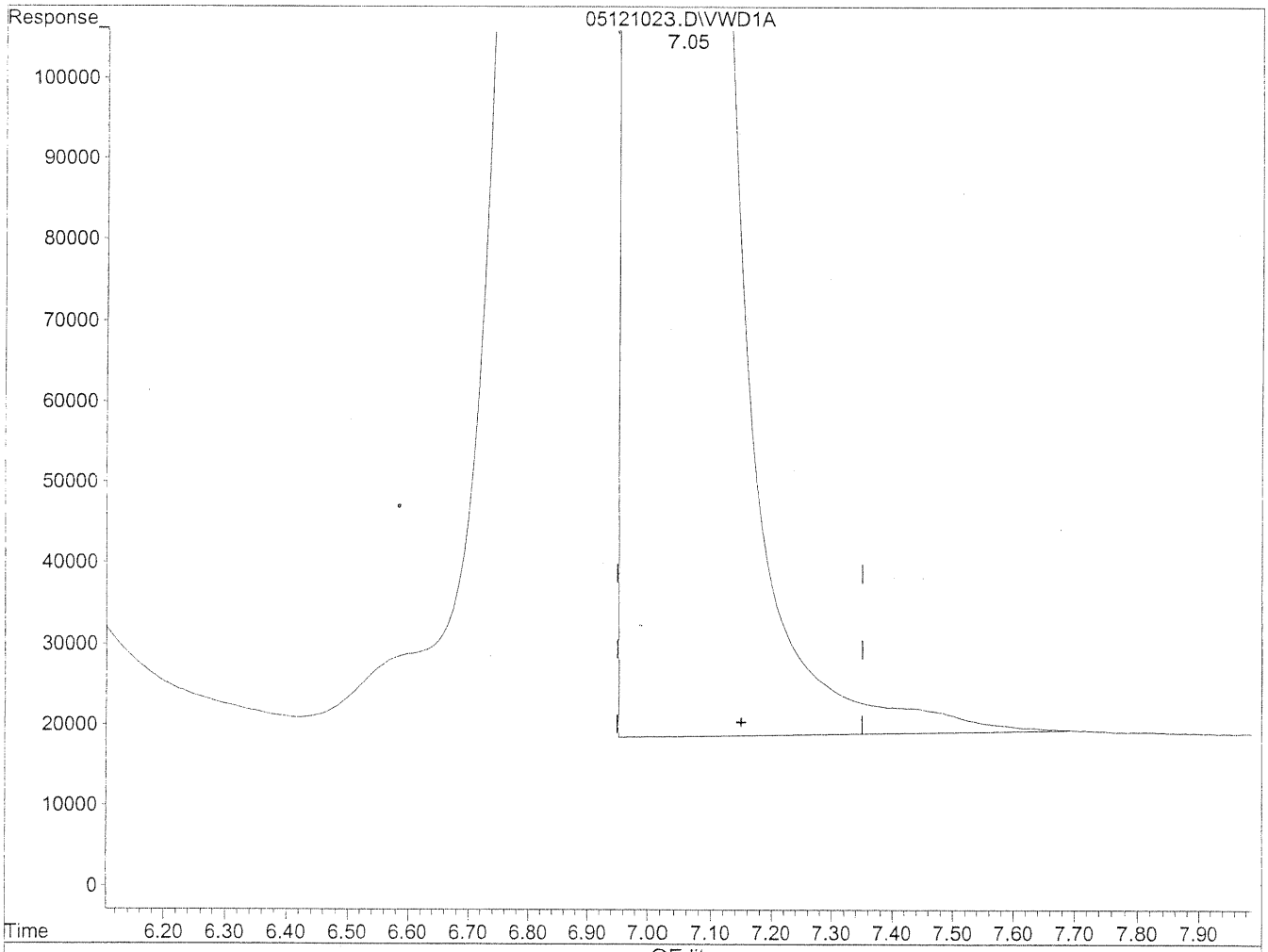
(+) = Expected Retention Time

05121023.D TO110510.M Thu May 13 11:29:42 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121023.D Vial: 131
Acq On : 12-May-2010, 16:37 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.05min 11190.681ng/ml

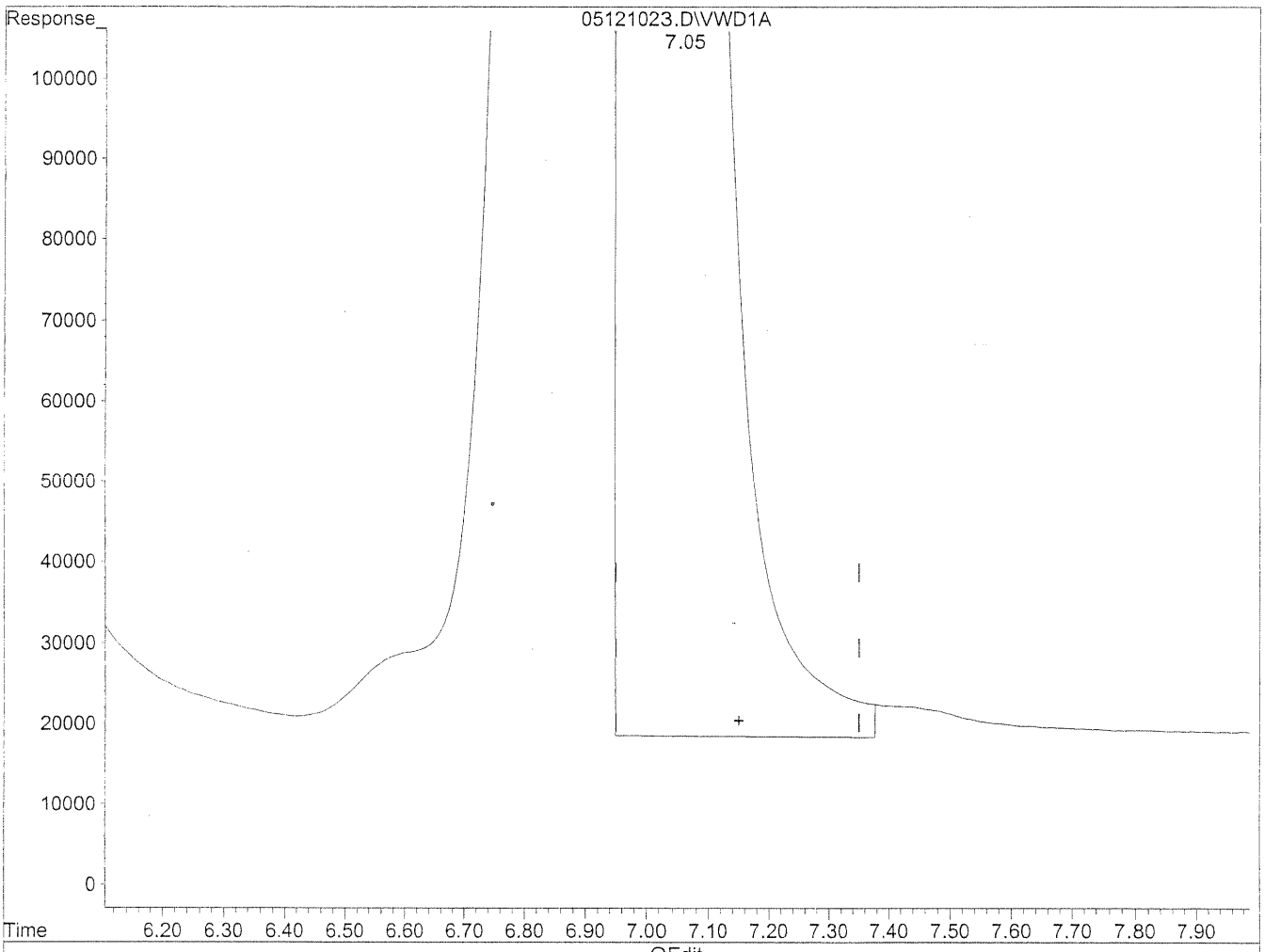
response 21446009

(+) = Expected Retention Time

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121023.D Vial: 131
Acq On : 12-May-2010, 16:37 Operator: MD
Sample : 10000ng/ml TO-11 S21-03091007 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:29 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed May 12 13:15:37 2010
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

7.05min 11079.292ng/ml m

response 21232541

sh mo 5/13/10 LC 5/14/10

(+) = Expected Retention Time

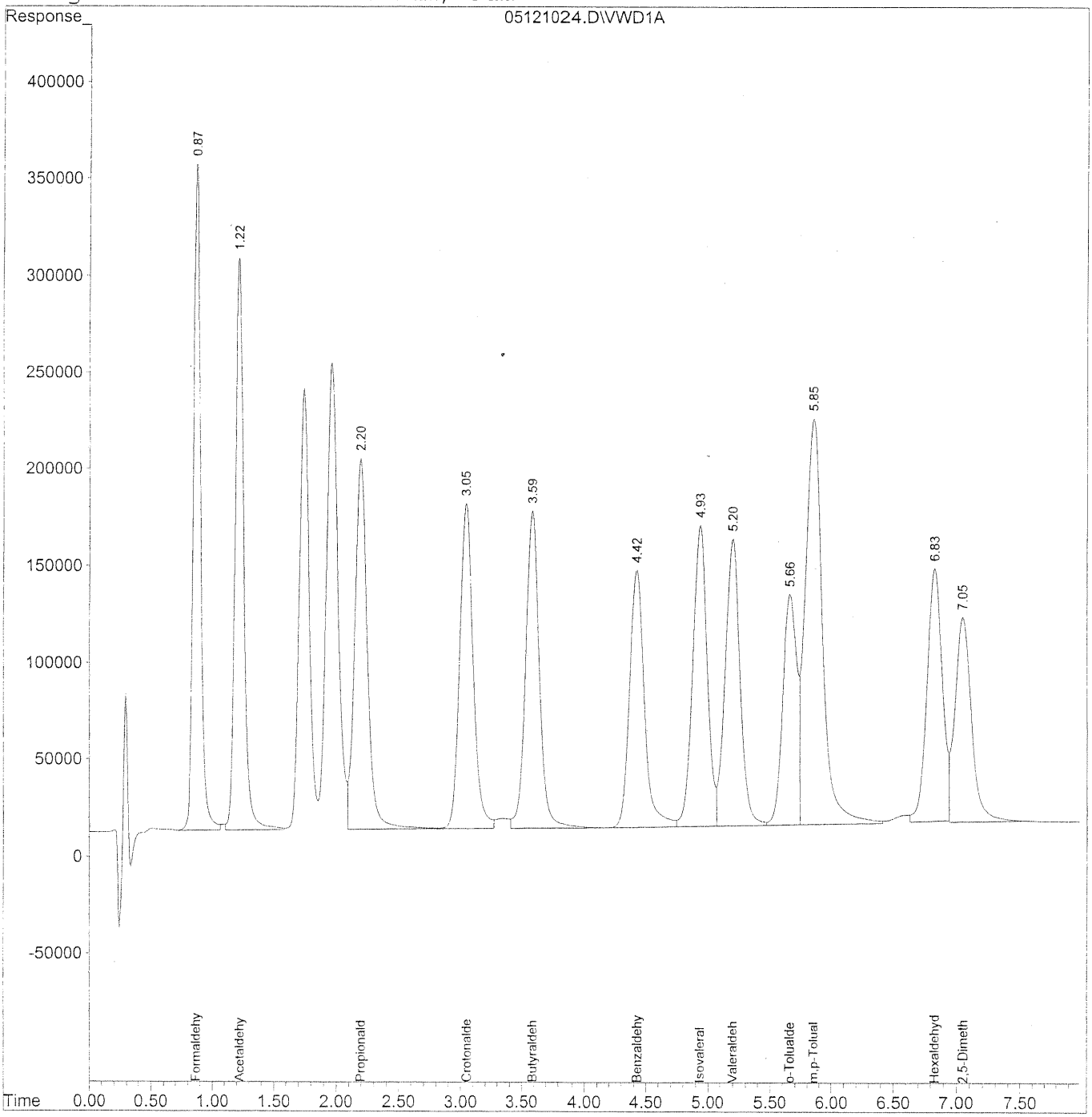
05121023.D TO110510.M Thu May 13 11:29:52 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121024.D Vial: 132
Acq On : 12-May-2010, 16:48 Operator: MD
Sample : ~1500 TO-11A ICV S21-03091003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:49 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:47:19 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121024.D Vial: 132
Acq On : 12-May-2010, 16:48 Operator: MD
Sample : ~1500 TO-11A ICV S21-03091003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:49 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:47:19 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

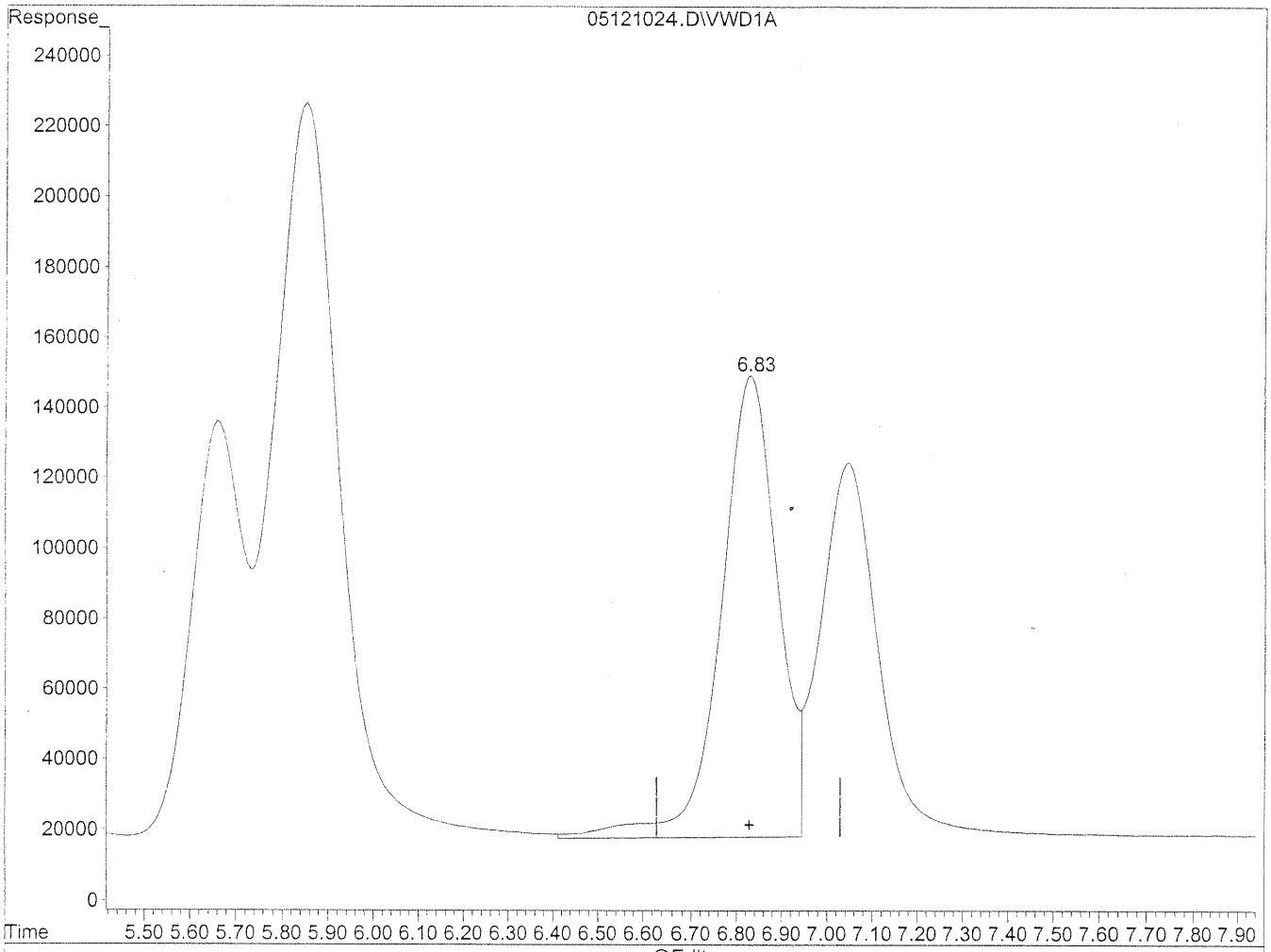
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.87	14317805	1534.126	ng/ml
2)	Acetaldehyde	1.22	14429644	2142.414	ng/ml
3)	Propionaldehyde	2.20	13449982	2766.335	ng/ml
4)	Crotonaldehyde	3.05	12673442	3109.264	ng/ml
5)	Butyraldehyde	3.59	12877834	3196.044	ng/ml
6)	Benzaldehyde	4.42	10966971	4051.752	ng/ml
7)	Isovaleraldehyde	4.94	12510790	3526.445	ng/ml
8)	Valeraldehyde	5.20	12247050	3650.807	ng/ml
9)	o-Tolualdehyde	5.66	9205480	4522.385	ng/ml
10)	m,p-Tolualdehyde	5.85	21103085	9008.370	ng/ml
11)	Hexaldehyde	6.83	10778547	3748.573	ng/mlm
12)	2,5-Dimethylbenzaldehyde	7.05	9419393	4895.634	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121024.D Vial: 132
Acq On : 12-May-2010, 16:48 Operator: MD
Sample : ~1500 TO-11A ICV S21-03091003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:38 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:38:28 2010
Response via : Multiple Level Calibration



(11) Hexaldehyde

6.83min 3969.429ng/ml

response 11413591

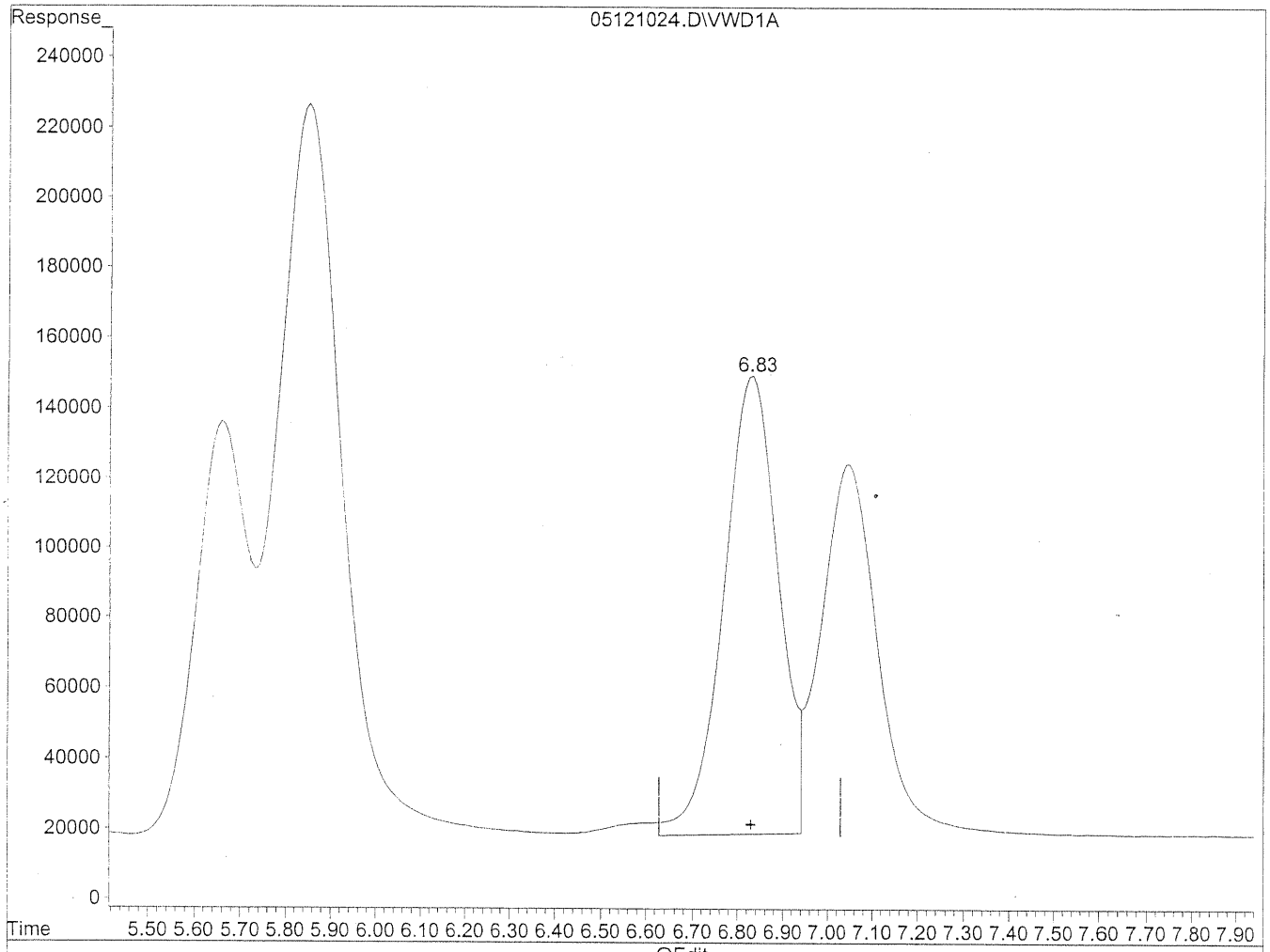
(+) = Expected Retention Time

05121024.D TO110510.M Thu May 13 11:38:51 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_05\12\05121024.D Vial: 132
Acq On : 12-May-2010, 16:48 Operator: MD
Sample : ~1500 TO-11A ICV S21-03091003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: May 13 11:47 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu May 13 11:47:19 2010
Response via : Multiple Level Calibration



QEdit

(11) Hexaldehyde

6.83min 3748.573ng/ml m

response 10778547

5/13/10

5/13/10

(+) = Expected Retention Time

05121024.D TO110510.M Thu May 13 11:49:20 2010

CONTINUING CALIBRATION STANDARDS

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161002.D Vial: 10
Acq On : 16-Jun-2010, 09:16:36 Operator: HC/SM
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

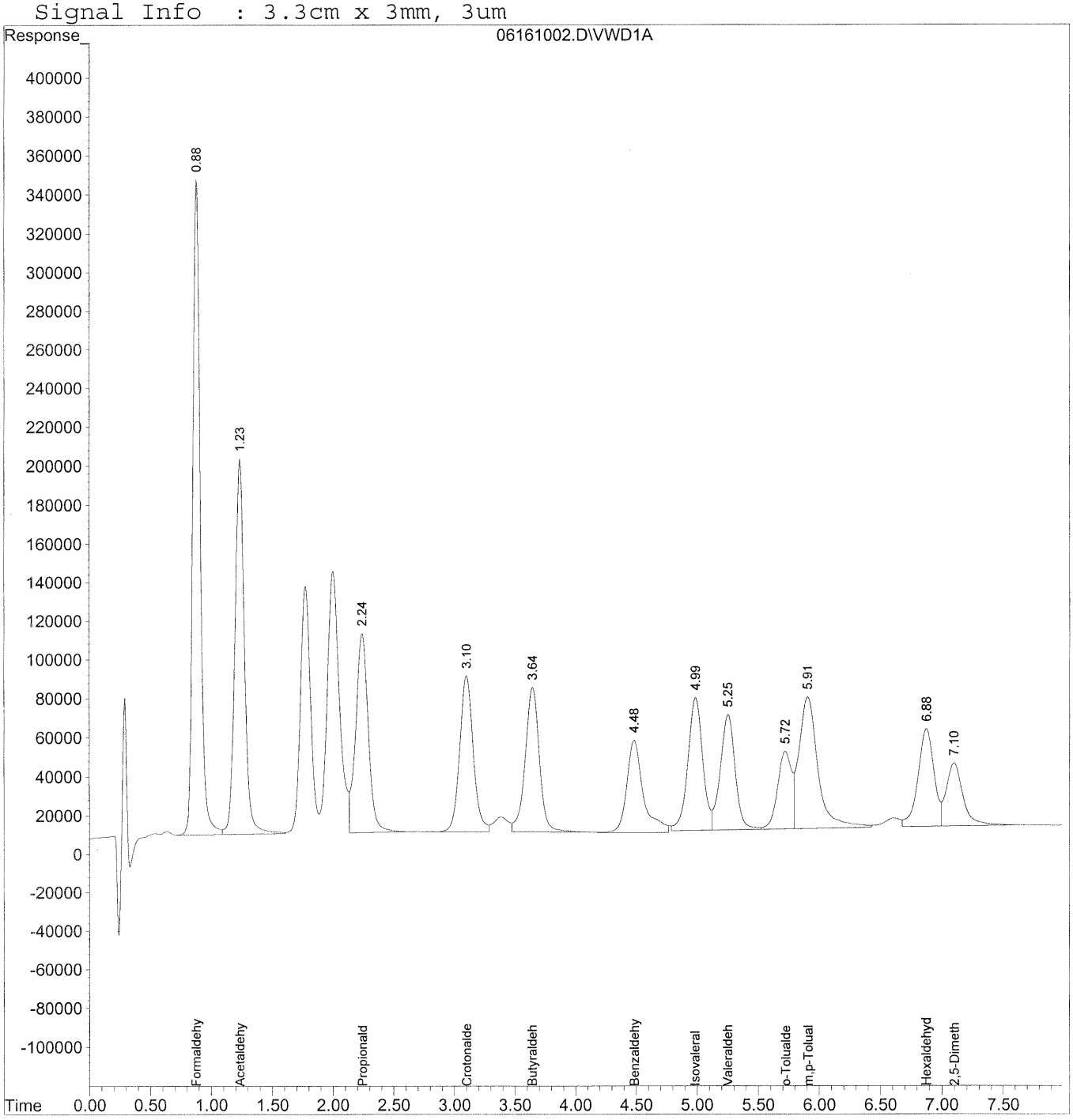
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.607 E3	-2.9	103	-0.02
2	Acetaldehyde	6.735	7.004 E3	-4.0	103	-0.03
3	Propionaldehyde	4.862	4.960 E3	-2.0	102	-0.06
4	Crotonaldehyde	4.076	4.147 E3	-1.7	100	-0.08
5	Butyraldehyde	4.029	3.998 E3	0.8	101	-0.08
6	Benzaldehyde	2.707	2.989 E3	-10.4	112	-0.09
7	Isovaleraldehyde	3.548	3.821 E3	-7.7	104	-0.08
8	Valeraldehyde	3.355	3.331 E3	0.7	102	-0.08
9	o-Tolualdehyde	2.036	2.103 E3	-3.3	99	-0.09
10	m,p-Tolualdehyde	2.343	2.450 E3	-4.6	102	-0.09
11	Hexaldehyde	2.875	2.946 E3	-2.5	106	-0.08
12	2,5-Dimethylbenzaldehyde	1.924	2.032 E3	-5.6	100	-0.09

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161002.D Vial: 10
Acq On : 16-Jun-2010, 09:16:36 Operator: HC/SM
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 15:19 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161002.D Vial: 10
Acq On : 16-Jun-2010, 09:16:36 Operator: HC/SM
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 15:19 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

6/21/10

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

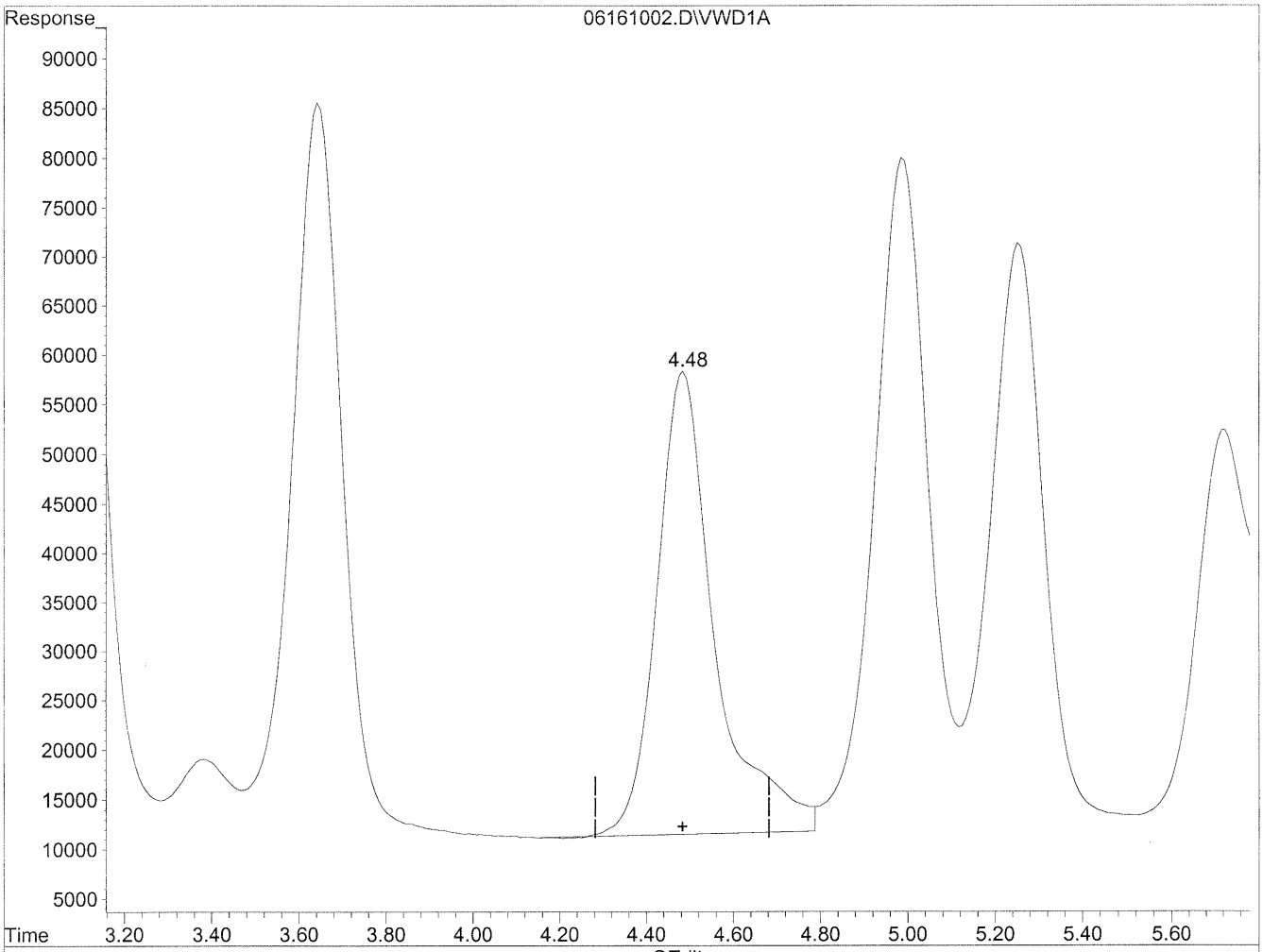
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.88	14409828	1543.986	ng/ml
2)	Acetaldehyde	1.24	10505794	1559.828	ng/ml
3)	Propionaldehyde	2.24	7439808	1530.188	ng/ml
4)	Crotonaldehyde	3.10	6220153	1526.034	ng/ml
5)	Butyraldehyde	3.65	5996941	1488.332	ng/ml
6)	Benzaldehyde	4.48	4483665	1656.492	ng/mlm
7)	Isovaleraldehyde	4.99	5731474	1615.544	ng/ml
8)	Valeraldehyde	5.26	4996875	1489.553	ng/ml
9)	o-Tolualdehyde	5.73	3154209	1549.571	ng/ml
10)	m,p-Tolualdehyde	5.91	7349845	3137.462	ng/ml
11)	Hexaldehyde	6.88	4419120	1536.886	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.10	3047910	1584.120	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161002.D Vial: 10
Acq On : 16-Jun-2010, 09:16:36 Operator: HC/SM
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 9:27 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.49min 1597.343ng/ml

response 4323566

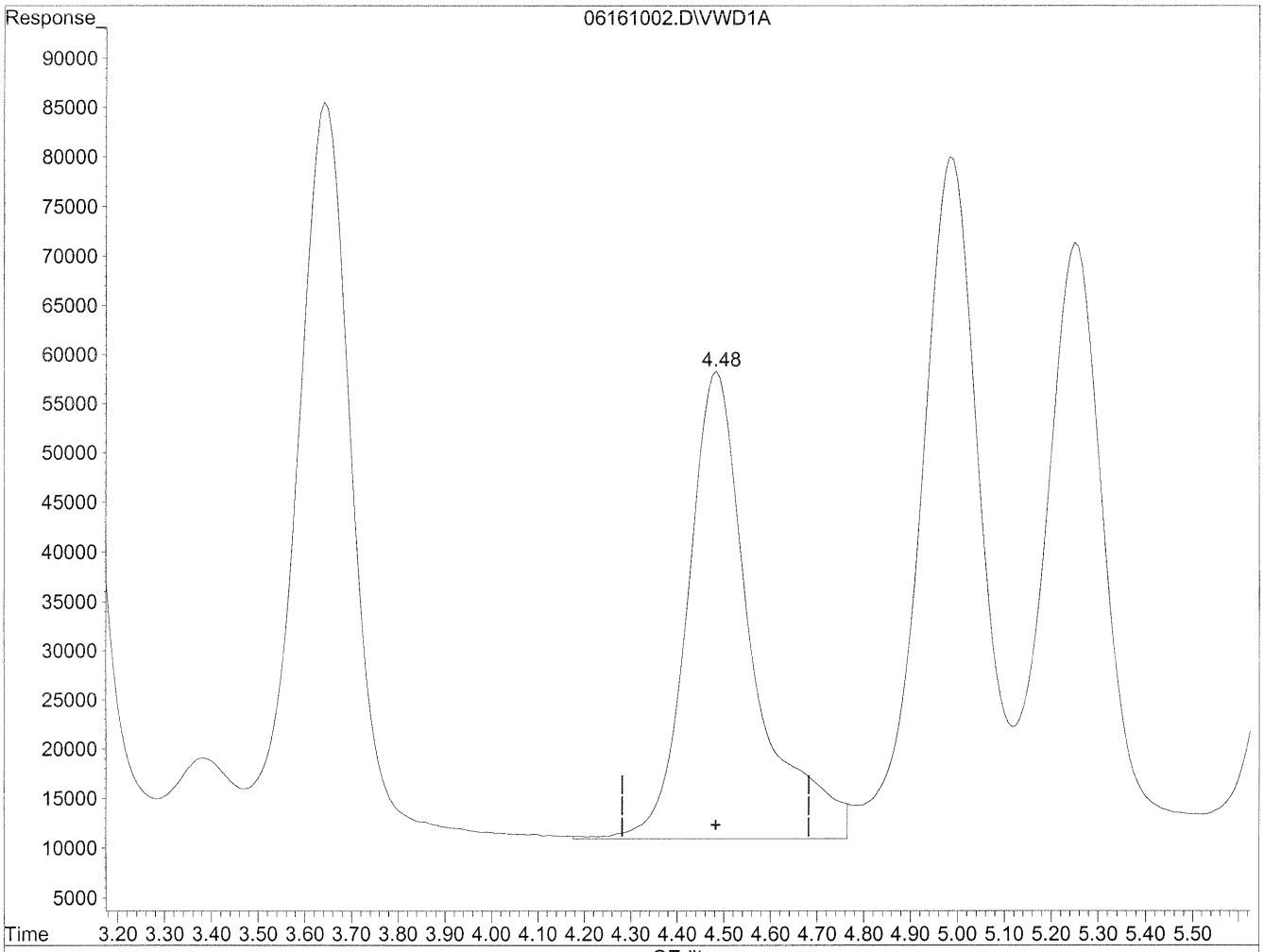
(+) = Expected Retention Time

06161002.D TO110510.M Wed Jun 16 14:11:52 2010

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161002.D Vial: 10
Acq On : 16-Jun-2010, 09:16:36 Operator: HC/SM
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 16 14:12 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.48min 1656.492ng/ml m

response 4483665

HC 6/17/10 LC

(+) = Expected Retention Time

06161002.D TO110510.M Thu Jun 17 15:19:52 2010

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161015.D Vial: 10
Acq On : 16-Jun-2010, 11:51:06 Operator: HC/SM
Sample : Mid 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

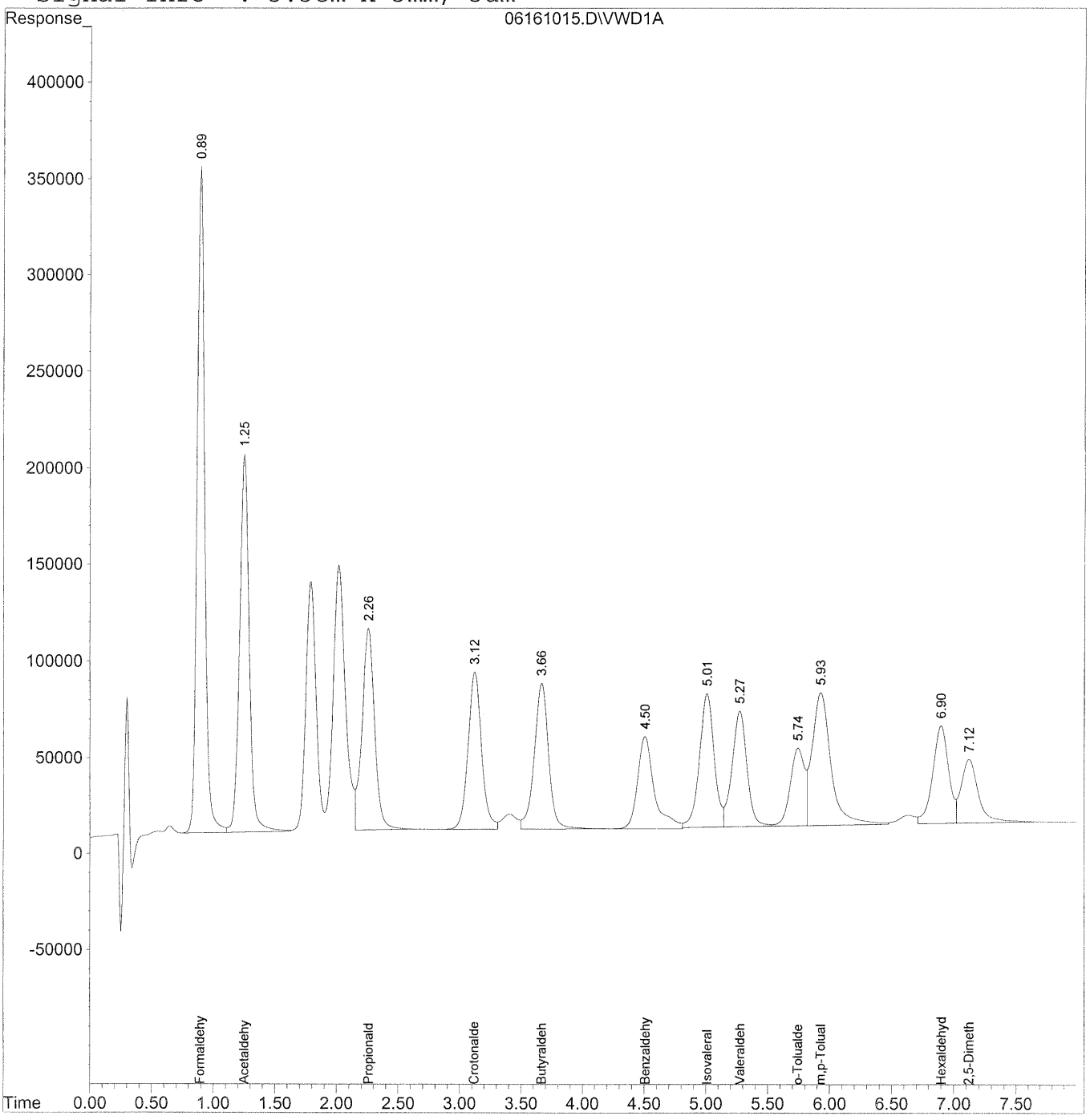
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.738 E3	-4.3	105	0.00
2	Acetaldehyde	6.735	7.093 E3	-5.3	104	-0.01
3	Propionaldehyde	4.862	5.022 E3	-3.3	103	-0.04
4	Crotonaldehyde	4.076	4.231 E3	-3.8	102	-0.05
5	Butyraldehyde	4.029	4.101 E3	-1.8	104	-0.06
6	Benzaldehyde	2.707	3.031 E3	-12.0	114	-0.07
7	Isovaleraldehyde	3.548	3.859 E3	-8.8	105	-0.06
8	Valeraldehyde	3.355	3.370 E3	-0.4	103	-0.06
9	o-Tolualdehyde	2.036	2.135 E3	-4.9	101	-0.07
10	m,p-Tolualdehyde	2.343	2.472 E3	-5.5	103	-0.07
11	Hexaldehyde	2.875	2.965 E3	-3.1	107	-0.06
12	2,5-Dimethylbenzaldehyde	1.924	2.112 E3	-9.8	104	-0.07

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161015.D Vial: 10
Acq On : 16-Jun-2010, 11:51 Operator: HC/SM
Sample : Mid 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:15 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161015.D Vial: 10
Acq On : 16-Jun-2010, 11:51 Operator: HC/SM
Sample : Mid 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:15 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Jun 16 09:27:09 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

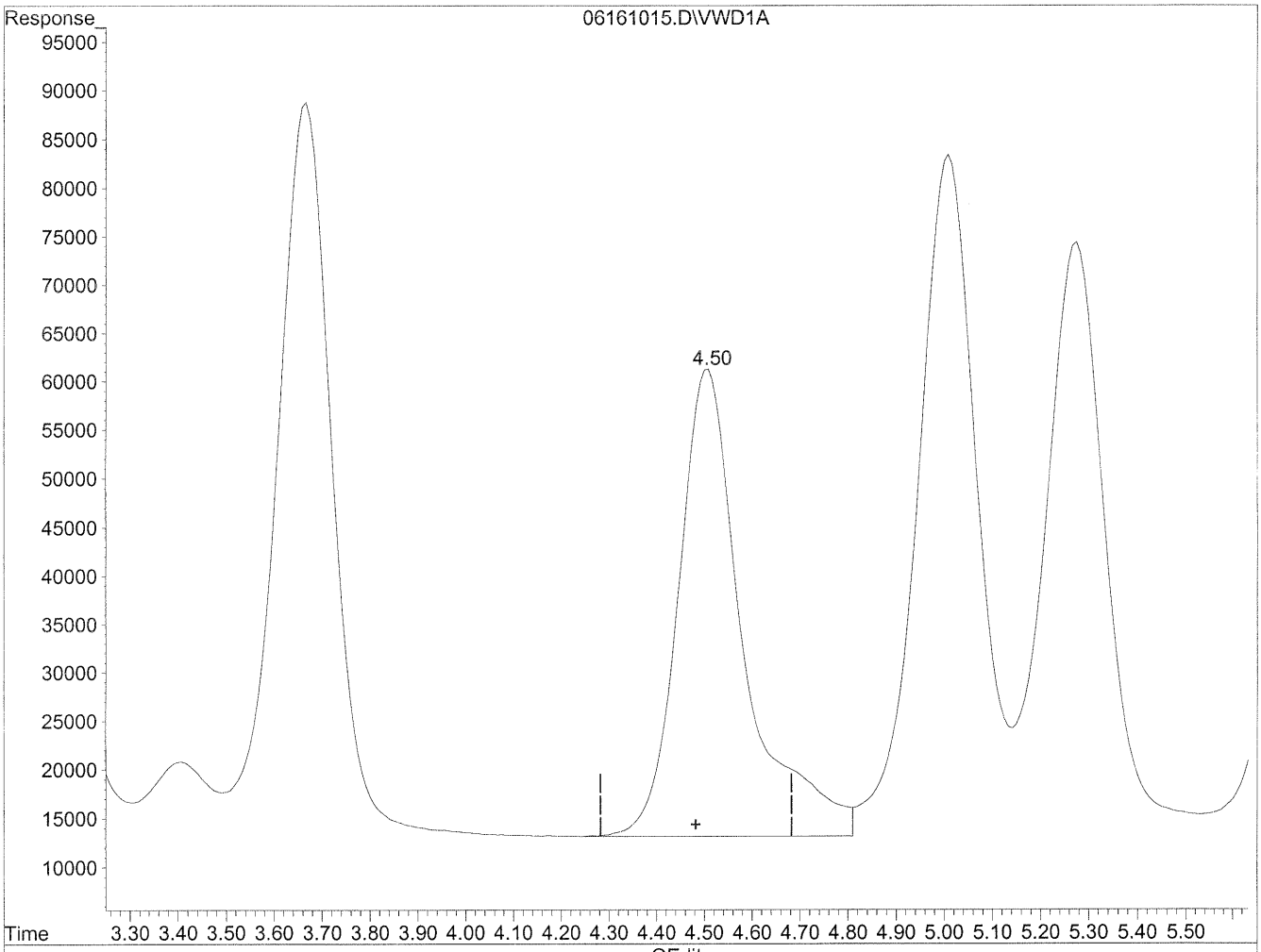
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	14606628	1565.073	ng/ml
2)	Acetaldehyde	1.25	10638894	1579.589	ng/ml
3)	Propionaldehyde	2.26	7533286	1549.414	ng/ml
4)	Crotonaldehyde	3.12	6346259	1556.972	ng/ml
5)	Butyraldehyde	3.67	6151586	1526.712	ng/ml
6)	Benzaldehyde	4.50	4546959	1679.876	ng/mlm
7)	Isovaleraldehyde	5.01	5788177	1631.527	ng/ml
8)	Valeraldehyde	5.28	5054558	1506.748	ng/ml
9)	o-Tolualdehyde	5.75	3203189	1573.633	ng/ml
10)	m,p-Tolualdehyde	5.93	7417128	3166.183	ng/ml
11)	Hexaldehyde	6.90	4448024	1546.938	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.12	3167422	1646.235	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\16\06161015.D Vial: 10
Acq On : 16-Jun-2010, 11:51:06 Operator: HC/SM
Sample : Mid 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 10:36 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.50min 1679.876ng/ml m

response 4546959

HC 6/18/10 IC no before

(+) = Expected Retention Time

06161015.D TO110510.M Fri Jun 18 15:15:16 2010

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171001.D Vial: 10
Acq On : 17-Jun-2010, 09:34:10 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.698 E3	-3.9	104	0.01
2	Acetaldehyde	6.735	7.037 E3	-4.5	104	0.02
3	Propionaldehyde	4.862	5.084 E3	-4.6	104	0.03
4	Crotonaldehyde	4.076	4.215 E3	-3.4	102	0.03
5	Butyraldehyde	4.029	4.049 E3	-0.5	103	0.03
6	Benzaldehyde	2.707	2.906 E3	-7.4	109	0.03
7	Isovaleraldehyde	3.548	3.829 E3	-7.9	104	0.03
8	Valeraldehyde	3.355	3.322 E3	1.0	102	0.03
9	o-Tolualdehyde	2.036	2.073 E3	-1.8	98	0.03
10	m,p-Tolualdehyde	2.343	2.453 E3	-4.7	102	0.03
11	Hexaldehyde	2.875	2.923 E3	-1.7	105	0.02
12	2,5-Dimethylbenzaldehyde	1.924	2.014 E3	-4.7	99	0.02

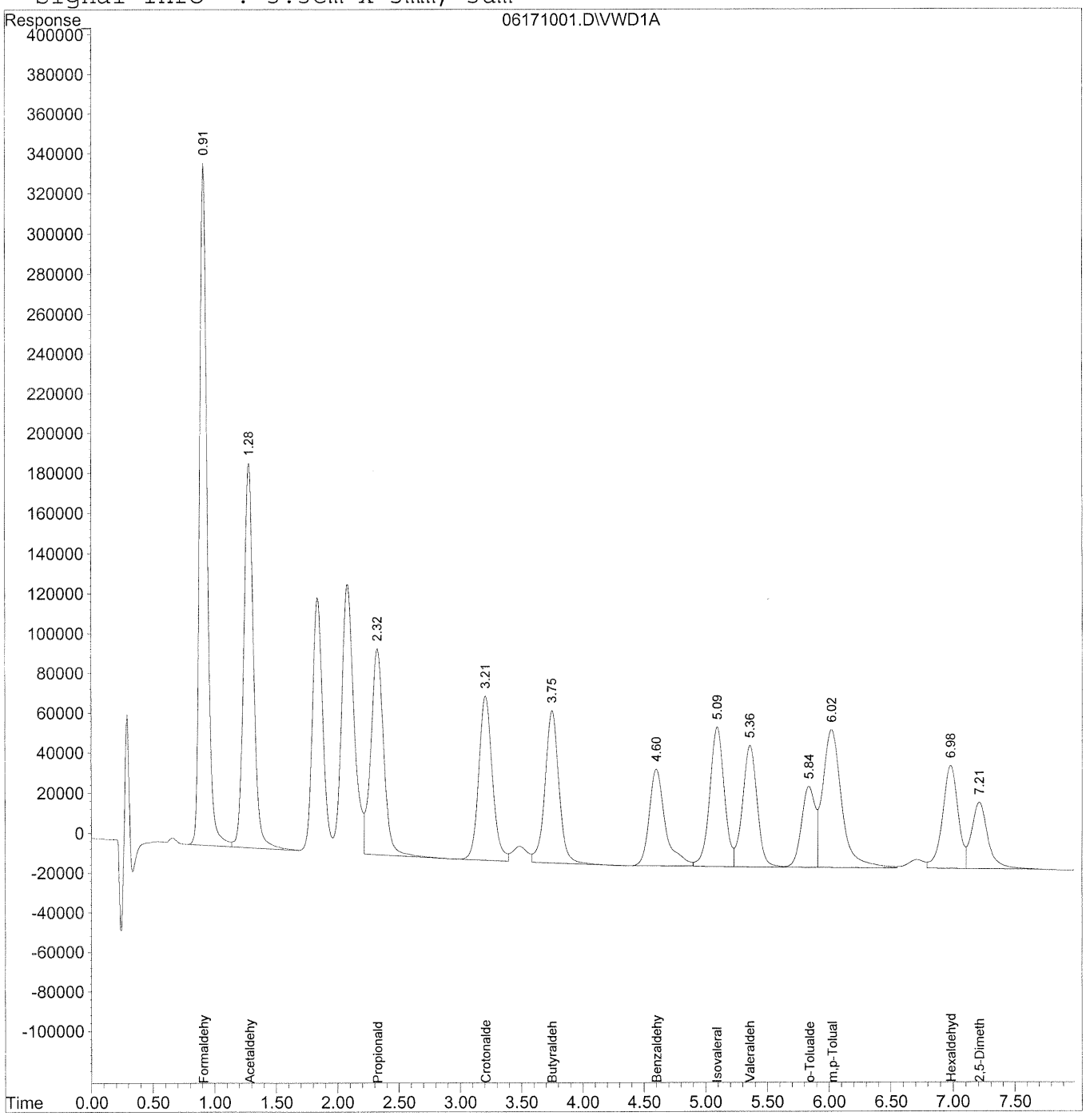
(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171001.D Vial: 10
Acq On : 17-Jun-2010, 09:34 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:13 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171001.D Vial: 10
Acq On : 17-Jun-2010, 09:34 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:13 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

cme 6/21/10

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

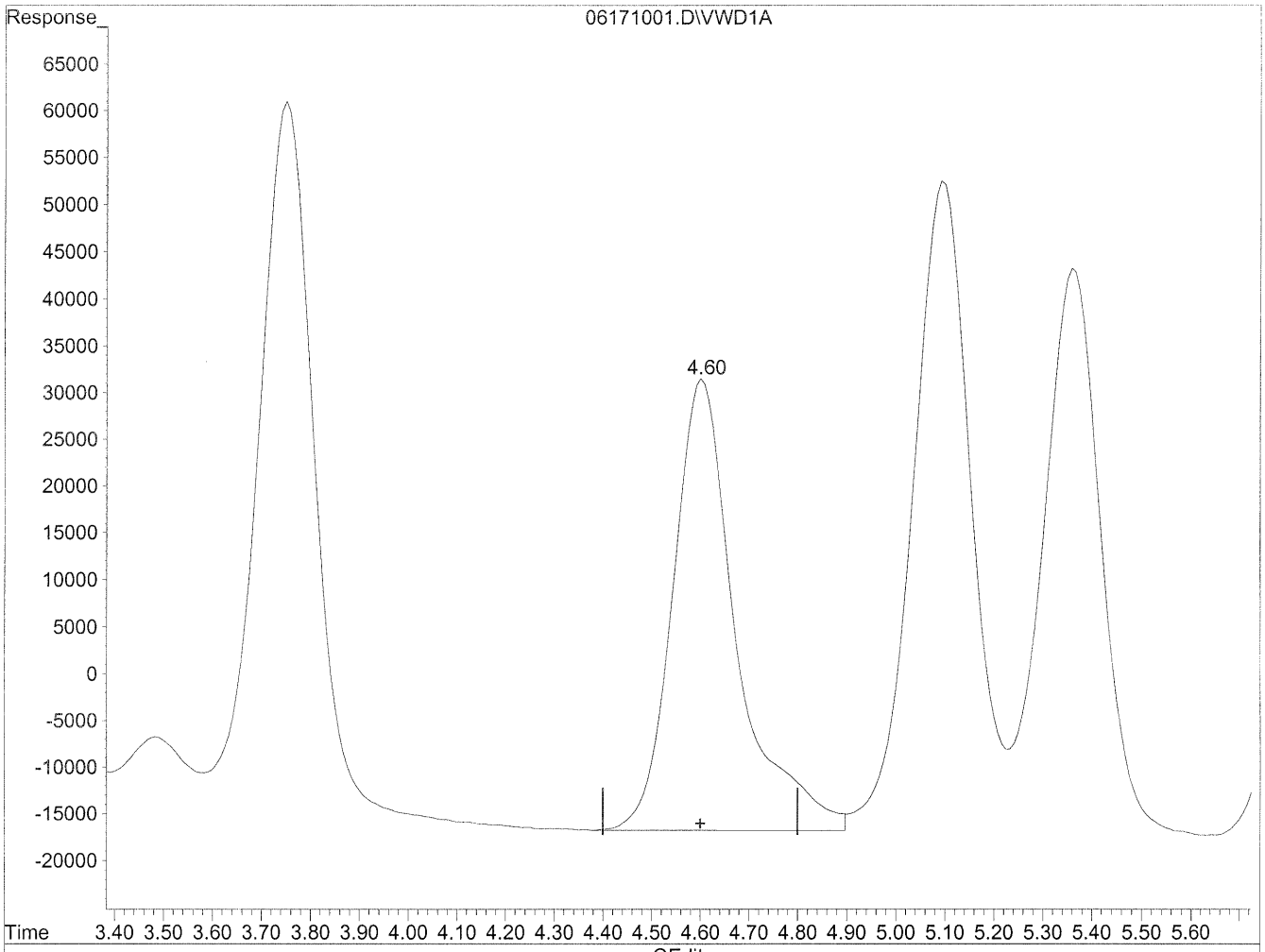
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.91	14546640	1558.645	ng/ml
2)	Acetaldehyde	1.28	10555767	1567.247	ng/ml
3)	Propionaldehyde	2.33	7625957	1568.474	ng/ml
4)	Crotonaldehyde	3.21	6322607	1551.169	ng/ml
5)	Butyraldehyde	3.75	6073491	1507.330	ng/ml
6)	Benzaldehyde	4.60	4359734	1610.705	ng/mlm
7)	Isovaleraldehyde	5.10	5743999	1619.074	ng/ml
8)	Valeraldehyde	5.36	4983620	1485.601	ng/ml
9)	o-Tolualdehyde	5.84	3109439	1527.577	ng/ml
10)	m,p-Tolualdehyde	6.02	7359332	3141.512	ng/ml
11)	Hexaldehyde	6.98	4384292	1524.773	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.21	3021570	1570.430	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171001.D Vial: 10
Acq On : 17-Jun-2010, 09:34:10 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:46 19110 Quant Results File: TO110510.RES

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration



(6) Benzaldehyde

4.60min 1610.705ng/ml m

response 4359734

HC 6/18/10 LC no release

(+) = Expected Retention Time

06171001.D TO110510.M Fri Jun 18 15:13:37 2010

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171010.D Vial: 10
Acq On : 17-Jun-2010, 11:07:39 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

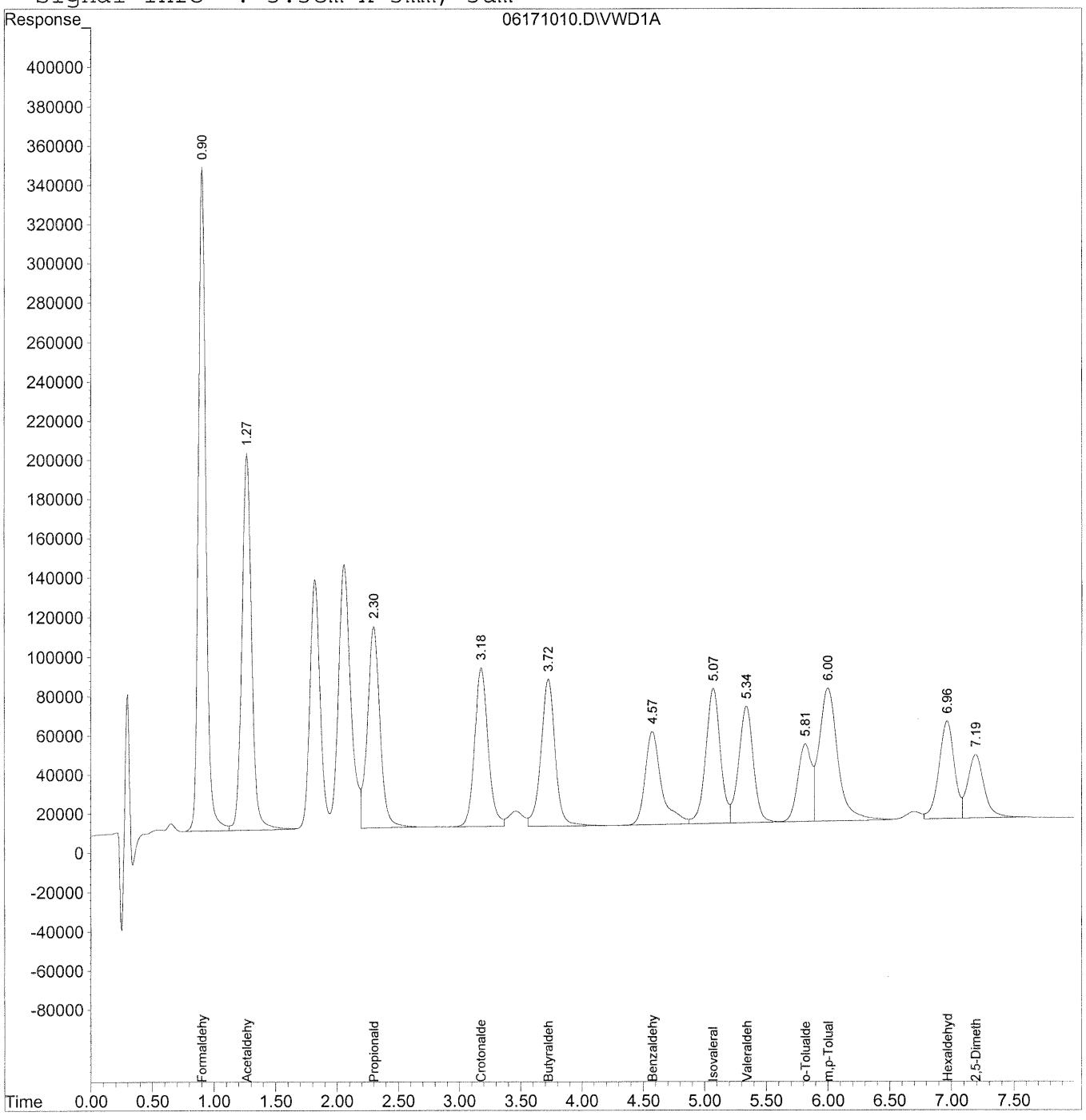
	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.608 E3	-2.9	103	0.00
2	Acetaldehyde	6.735	7.002 E3	-4.0	103	0.00
3	Propionaldehyde	4.862	4.962 E3	-2.1	102	0.00
4	Crotonaldehyde	4.076	4.181 E3	-2.6	101	0.00
5	Butyraldehyde	4.029	4.027 E3	0.0	102	0.00
6	Benzaldehyde	2.707	2.928 E3	-8.2	110	0.00
7	Isovaleraldehyde	3.548	3.816 E3	-7.6	104	0.00
8	Valeraldehyde	3.355	3.290 E3	1.9	101	0.00
9	o-Tolualdehyde	2.036	2.048 E3	-0.6	97	0.00
10	m,p-Tolualdehyde	2.343	2.391 E3	-2.0	100	0.00
11	Hexaldehyde	2.875	2.828 E3	1.6	102	0.00
12	2,5-Dimethylbenzaldehyde	1.924	1.946 E3	-1.1	96	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171010.D Vial: 10
Acq On : 17-Jun-2010, 11:07:39 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:22 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171010.D Vial: 10
Acq On : 17-Jun-2010, 11:07:39 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 11:22 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.91	14412647	1544.288	ng/ml
2)	Acetaldehyde	1.27	10502301	1559.309	ng/ml
3)	Propionaldehyde	2.30	7443152	1530.876	ng/ml
4)	Crotonaldehyde	3.18	6271185	1538.554	ng/ml
5)	Butyraldehyde	3.73	6040302	1499.093	ng/ml
6)	Benzaldehyde	4.58	4391305	1622.369	ng/ml
7)	Isovaleraldehyde	5.07	5724723	1613.641	ng/ml
8)	Valeraldehyde	5.34	4935359	1471.215	ng/ml
9)	o-Tolualdehyde	5.82	3072235	1509.300	ng/ml
10)	m,p-Tolualdehyde	6.00	7174258	3062.508	ng/ml
11)	Hexaldehyde	6.97	4241412	1475.082	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.19	2919744	1517.507	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171022.D Vial: 10
Acq On : 17-Jun-2010, 13:13:27 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

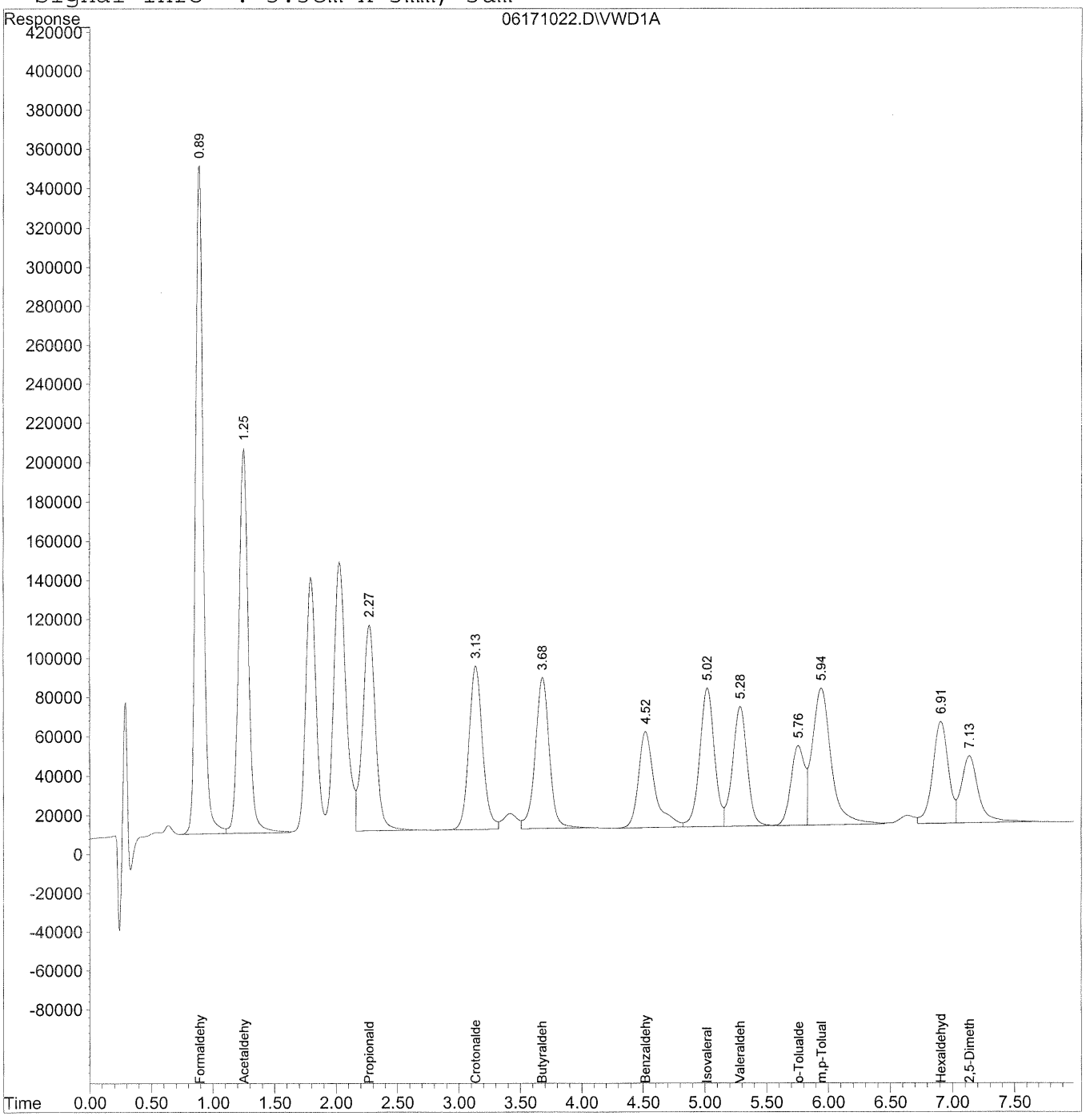
	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.806 E3	-5.1	106	-0.01
2	Acetaldehyde	6.735	7.143 E3	-6.1	105	-0.02
3	Propionaldehyde	4.862	5.093 E3	-4.8	105	-0.03
4	Crotonaldehyde	4.076	4.271 E3	-4.8	103	-0.04
5	Butyraldehyde	4.029	4.088 E3	-1.5	104	-0.04
6	Benzaldehyde	2.707	2.989 E3	-10.4	112	-0.05
7	Isovaleraldehyde	3.548	3.884 E3	-9.5	105	-0.05
8	Valeraldehyde	3.355	3.349 E3	0.2	103	-0.05
9	o-Tolualdehyde	2.036	2.082 E3	-2.3	98	-0.05
10	m,p-Tolualdehyde	2.343	2.466 E3	-5.2	103	-0.05
11	Hexaldehyde	2.875	2.953 E3	-2.7	106	-0.05
12	2,5-Dimethylbenzaldehyde	1.924	2.171 E3	-12.8	107	-0.05

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171022.D Vial: 10
Acq On : 17-Jun-2010, 13:13:27 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:23 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171022.D Vial: 10
Acq On : 17-Jun-2010, 13:13:27 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 13:23 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	14708604	1575.999	ng/ml
2)	Acetaldehyde	1.25	10714357	1590.794	ng/ml
3)	Propionaldehyde	2.27	7639940	1571.350	ng/ml
4)	Crotonaldehyde	3.14	6406011	1571.632	ng/ml
5)	Butyraldehyde	3.68	6132065	1521.867	ng/ml
6)	Benzaldehyde	4.52	4483162	1656.306	ng/ml
7)	Isovaleraldehyde	5.02	5826438	1642.311	ng/ml
8)	Valeraldehyde	5.29	5022946	1497.324	ng/ml
9)	o-Tolualdehyde	5.76	3122876	1534.178	ng/ml
10)	m,p-Tolualdehyde	5.94	7398775	3158.349	ng/ml
11)	Hexaldehyde	6.91	4430177	1540.731	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.14	3255857	1692.198	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171033.D Vial: 10
Acq On : 17-Jun-2010, 15:07:49 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

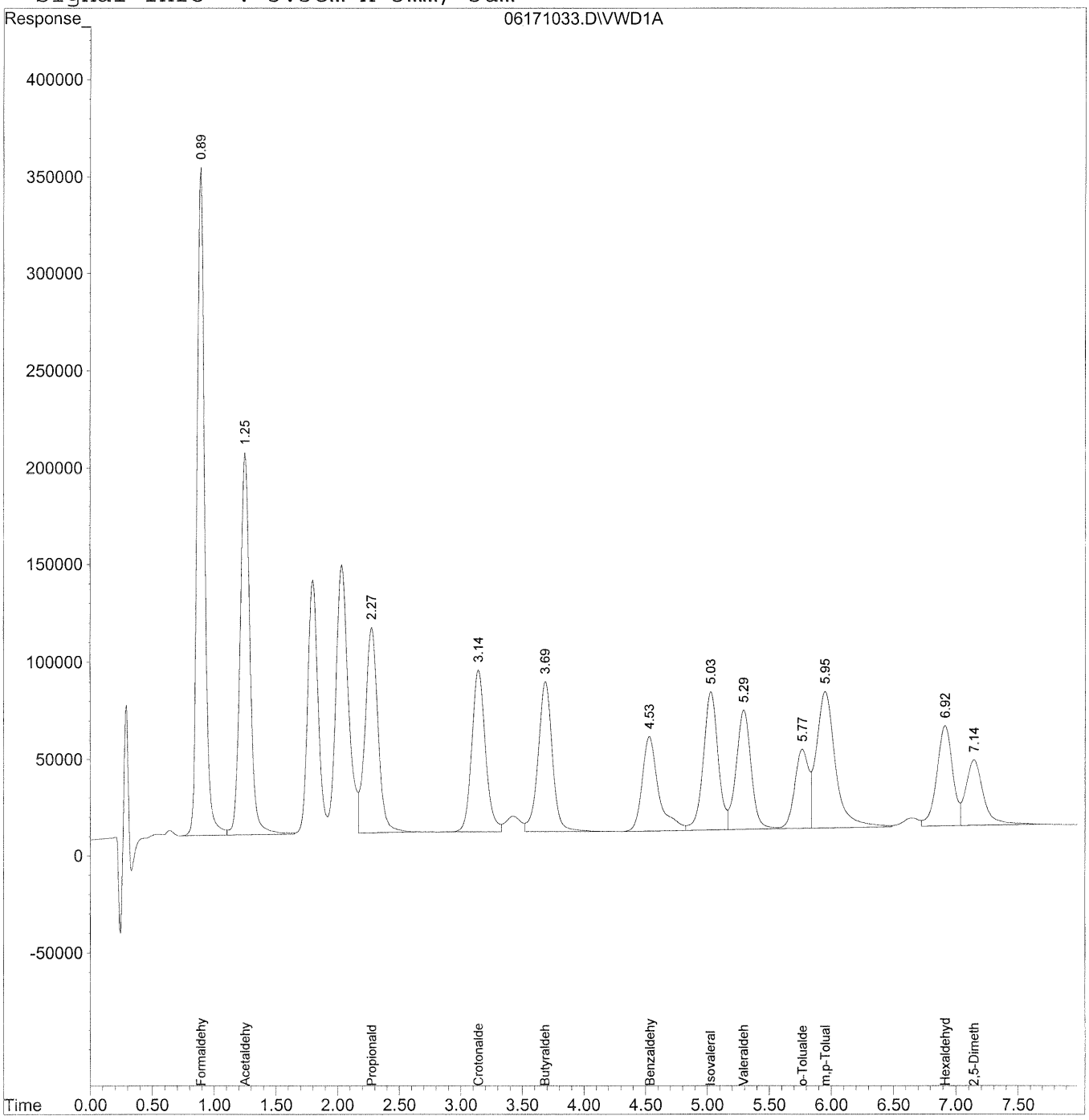
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.869 E3	-5.7	106	0.00
2	Acetaldehyde	6.735	7.232 E3	-7.4	106	-0.01
3	Propionaldehyde	4.862	5.140 E3	-5.7	106	-0.02
4	Crotonaldehyde	4.076	4.301 E3	-5.5	104	-0.03
5	Butyraldehyde	4.029	4.168 E3	-3.4	106	-0.03
6	Benzaldehyde	2.707	3.005 E3	-11.0	113	-0.04
7	Isovaleraldehyde	3.548	3.951 E3	-11.4	107	-0.04
8	Valeraldehyde	3.355	3.436 E3	-2.4	105	-0.04
9	o-Tolualdehyde	2.036	2.124 E3	-4.3	100	-0.04
10	m,p-Tolualdehyde	2.343	2.522 E3	-7.6	105	-0.04
11	Hexaldehyde	2.875	2.971 E3	-3.3	107	-0.04
12	2,5-Dimethylbenzaldehyde	1.924	2.206 E3	-14.7	109	-0.04

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171033.D Vial: 10
Acq On : 17-Jun-2010, 15:07:49 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 15:18 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171033.D Vial: 10
Acq On : 17-Jun-2010, 15:07:49 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 17 15:18 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 09:46:26 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	14803414	1586.158	ng/ml
2)	Acetaldehyde	1.25	10847766	1610.601	ng/ml
3)	Propionaldehyde	2.28	7709632	1585.684	ng/ml
4)	Crotonaldehyde	3.15	6451171	1582.711	ng/ml
5)	Butyraldehyde	3.69	6252161	1551.673	ng/ml
6)	Benzaldehyde	4.53	4507266	1665.211	ng/ml
7)	Isovaleraldehyde	5.03	5925778	1670.313	ng/ml
8)	Valeraldehyde	5.30	5154227	1536.459	ng/ml
9)	o-Tolualdehyde	5.77	3185316	1564.853	ng/ml
10)	m,p-Tolualdehyde	5.95	7564968	3229.292	ng/ml
11)	Hexaldehyde	6.92	4456769	1549.980	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.15	3309728	1720.197	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171046.D Vial: 10
Acq On : 17-Jun-2010, 17:22:39 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

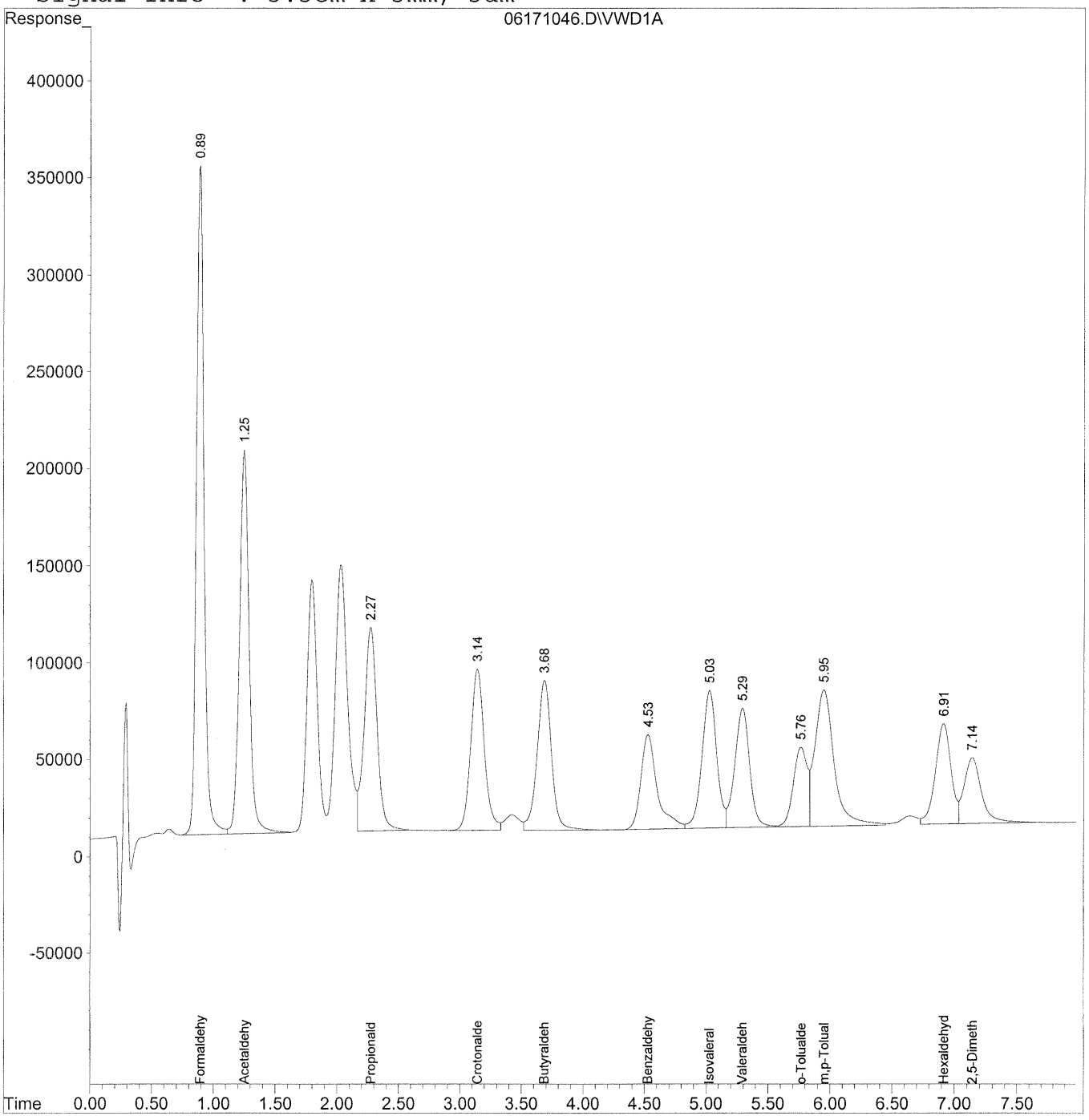
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.836 E3	-5.4	106	-0.01
2	Acetaldehyde	6.735	7.149 E3	-6.1	105	-0.01
3	Propionaldehyde	4.862	5.067 E3	-4.2	104	-0.03
4	Crotonaldehyde	4.076	4.277 E3	-4.9	103	-0.03
5	Butyraldehyde	4.029	4.123 E3	-2.3	104	-0.04
6	Benzaldehyde	2.707	2.965 E3	-9.5	112	-0.04
7	Isovaleraldehyde	3.548	3.899 E3	-9.9	106	-0.04
8	Valeraldehyde	3.355	3.407 E3	-1.5	105	-0.04
9	o-Tolualdehyde	2.036	2.112 E3	-3.7	100	-0.05
10	m,p-Tolualdehyde	2.343	2.502 E3	-6.8	104	-0.05
11	Hexaldehyde	2.875	2.946 E3	-2.5	106	-0.05
12	2,5-Dimethylbenzaldehyde	1.924	2.185 E3	-13.6	108	-0.05

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171046.D Vial: 10
Acq On : 17-Jun-2010, 17:22:39 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:00 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171046.D Vial: 10
Acq On : 17-Jun-2010, 17:22:39 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 8:00 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	14753335	1580.792	ng/ml
2)	Acetaldehyde	1.25	10723135	1592.097	ng/ml
3)	Propionaldehyde	2.27	7599866	1563.108	ng/ml
4)	Crotonaldehyde	3.14	6414798	1573.787	ng/ml
5)	Butyraldehyde	3.69	6184631	1534.913	ng/ml
6)	Benzaldehyde	4.53	4447000	1642.946	ng/ml
7)	Isovaleraldehyde	5.03	5848308	1648.476	ng/ml
8)	Valeraldehyde	5.30	5110505	1523.425	ng/ml
9)	o-Tolualdehyde	5.77	3167885	1556.290	ng/ml
10)	m,p-Tolualdehyde	5.95	7506411	3204.296	ng/ml
11)	Hexaldehyde	6.92	4418928	1536.819	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.14	3277380	1703.385	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171057.D Vial: 10
Acq On : 17-Jun-2010, 19:18:12 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

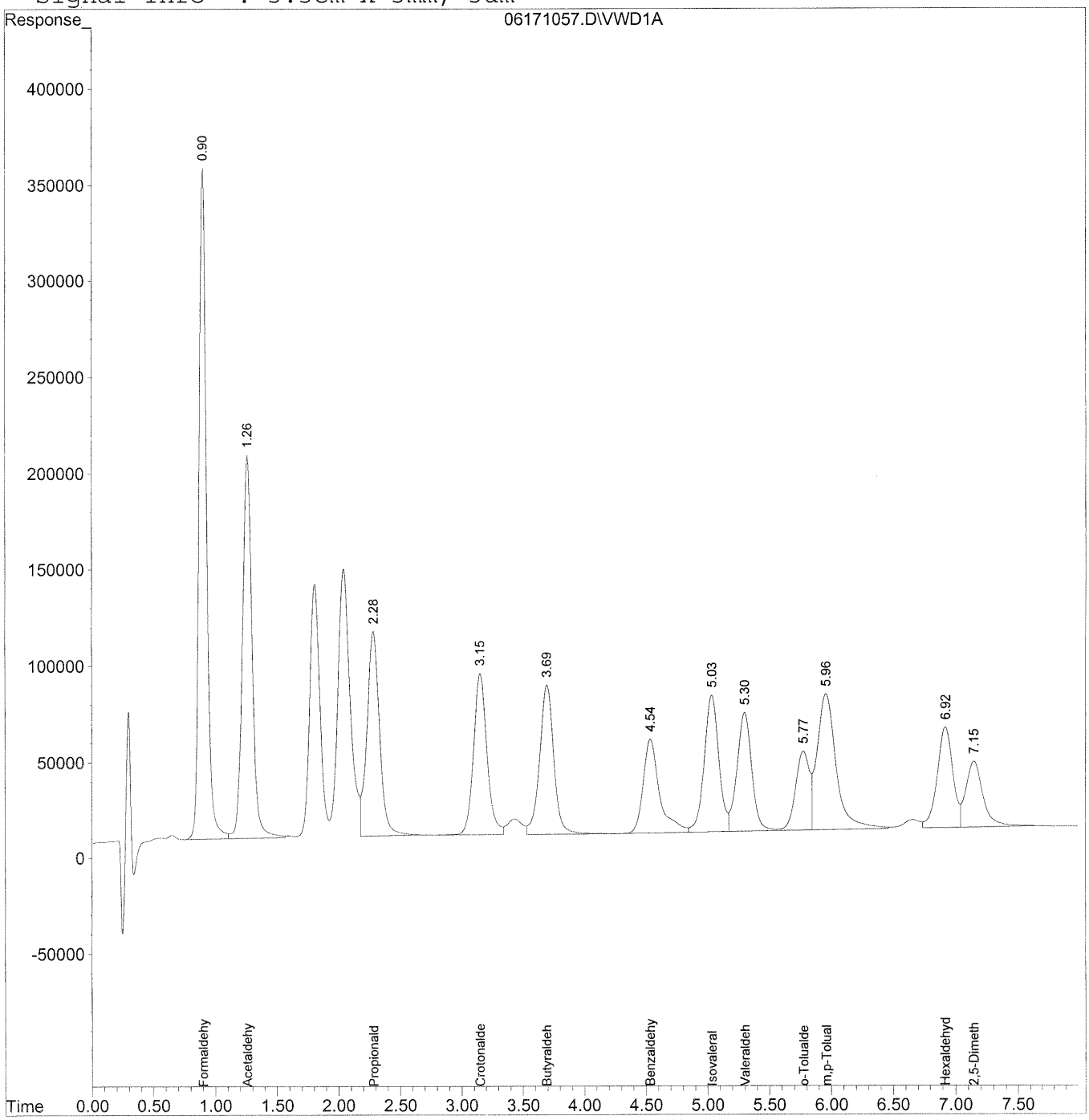
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.868 E3	-5.7	106	0.00
2	Acetaldehyde	6.735	7.216 E3	-7.1	106	0.00
3	Propionaldehyde	4.862	5.155 E3	-6.0	106	-0.02
4	Crotonaldehyde	4.076	4.336 E3	-6.4	105	-0.03
5	Butyraldehyde	4.029	4.174 E3	-3.6	106	-0.03
6	Benzaldehyde	2.707	3.015 E3	-11.4	113	-0.03
7	Isovaleraldehyde	3.548	3.930 E3	-10.8	107	-0.03
8	Valeraldehyde	3.355	3.442 E3	-2.6	106	-0.04
9	o-Tolualdehyde	2.036	2.162 E3	-6.2	102	-0.04
10	m,p-Tolualdehyde	2.343	2.554 E3	-9.0	106	-0.04
11	Hexaldehyde	2.875	2.985 E3	-3.8	108	-0.04
12	2,5-Dimethylbenzaldehyde	1.924	2.206 E3	-14.7	109	-0.04

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171057.D Vial: 10
Acq On : 17-Jun-2010, 19:18:12 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 7:59 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\17\06171057.D Vial: 10
Acq On : 17-Jun-2010, 19:18:12 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 7:59 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.90	14801798	1585.985	ng/ml
2)	Acetaldehyde	1.26	10823850	1607.050	ng/ml
3)	Propionaldehyde	2.28	7731902	1590.265	ng/ml
4)	Crotonaldehyde	3.15	6503452	1595.537	ng/ml
5)	Butyraldehyde	3.70	6261514	1553.994	ng/ml
6)	Benzaldehyde	4.54	4521806	1670.583	ng/ml
7)	Isovaleraldehyde	5.04	5895141	1661.677	ng/ml
8)	Valeraldehyde	5.30	5162563	1538.944	ng/ml
9)	o-Tolualdehyde	5.78	3243090	1593.236	ng/ml
10)	m,p-Tolualdehyde	5.96	7660912	3270.248	ng/ml
11)	Hexaldehyde	6.92	4477766	1557.282	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.15	3309325	1719.988	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181002.D Vial: 10
Acq On : 18-Jun-2010, 09:18 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

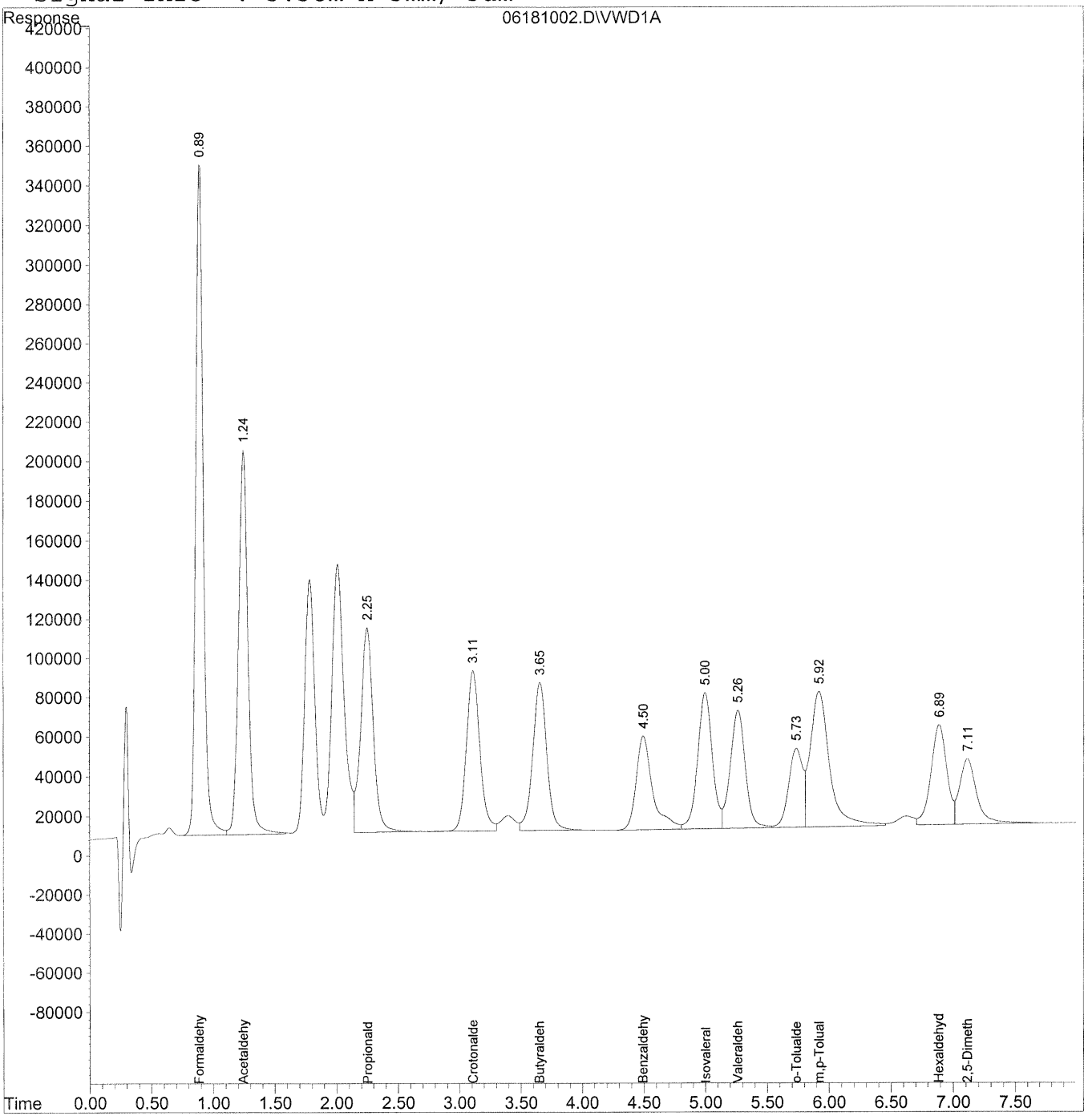
	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.535 E3	-2.2	103	-0.01
2	Acetaldehyde	6.735	6.939 E3	-3.0	102	-0.02
3	Propionaldehyde	4.862	4.962 E3	-2.1	102	-0.05
4	Crotonaldehyde	4.076	4.159 E3	-2.0	100	-0.07
5	Butyraldehyde	4.029	3.956 E3	1.8	100	-0.07
6	Benzaldehyde	2.707	2.914 E3	-7.6	110	-0.07
7	Isovaleraldehyde	3.548	3.801 E3	-7.1	103	-0.07
8	Valeraldehyde	3.355	3.323 E3	1.0	102	-0.07
9	o-Tolualdehyde	2.036	2.066 E3	-1.5	98	-0.08
10	m,p-Tolualdehyde	2.343	2.476 E3	-5.7	103	-0.08
11	Hexaldehyde	2.875	2.902 E3	-0.9	105	-0.07
12	2,5-Dimethylbenzaldehyde	1.924	2.090 E3	-8.6	103	-0.08

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181002.D Vial: 10
Acq On : 18-Jun-2010, 09:18:09 Operator: HC/SM
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:28 2010 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181002.D Vial: 10
Acq On : 18-Jun-2010, 09:18:09 Operator: HC/SM
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 9:28 2010 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	14302230	1532.457	ng/ml
2)	Acetaldehyde	1.25	10408330	1545.357	ng/ml
3)	Propionaldehyde	2.25	7442957	1530.836	ng/ml
4)	Crotonaldehyde	3.11	6237983	1530.408	ng/ml
5)	Butyraldehyde	3.66	5934535	1472.844	ng/ml
6)	Benzaldehyde	4.50	4371119	1614.912	ng/ml
7)	Isovaleraldehyde	5.00	5700927	1606.933	ng/ml
8)	Valeraldehyde	5.27	4984924	1485.990	ng/ml
9)	o-Tolualdehyde	5.74	3099101	1522.498	ng/ml
10)	m,p-Tolualdehyde	5.92	7428023	3170.834	ng/ml
11)	Hexaldehyde	6.89	4352284	1513.642	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.11	3134570	1629.161	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181007.D Vial: 10
Acq On : 18-Jun-2010, 10:09 Operator: HC/SM
Sample : CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

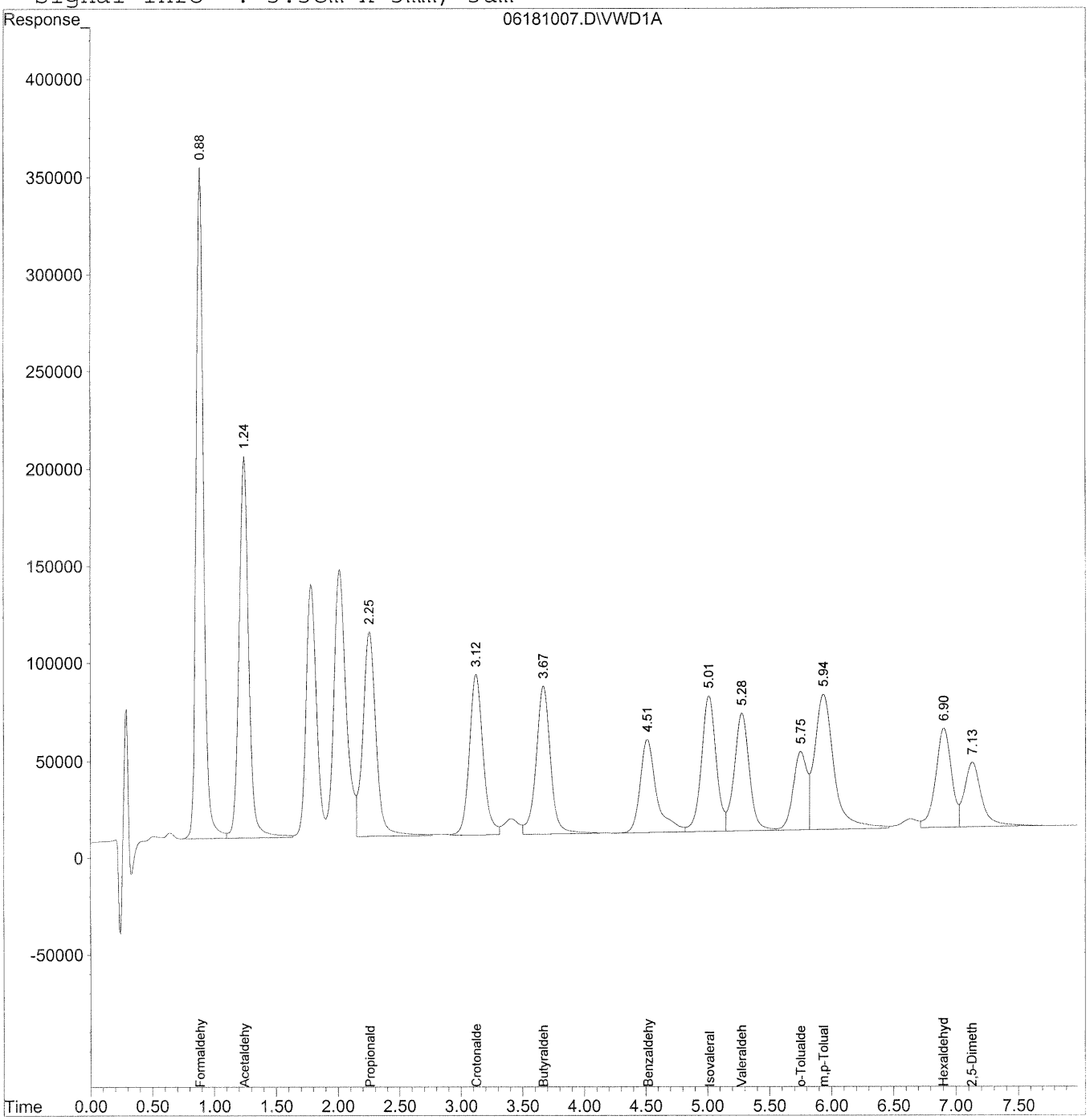
	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.646 E3	-3.4	104	-0.01
2	Acetaldehyde	6.735	7.100 E3	-5.4	104	-0.02
3	Propionaldehyde	4.862	5.191 E3	-6.8	107	-0.04
4	Crotonaldehyde	4.076	4.272 E3	-4.8	103	-0.05
5	Butyraldehyde	4.029	4.118 E3	-2.2	104	-0.05
6	Benzaldehyde	2.707	2.950 E3	-9.0	111	-0.06
7	Isovaleraldehyde	3.548	3.845 E3	-8.4	104	-0.05
8	Valeraldehyde	3.355	3.377 E3	-0.7	104	-0.06
9	o-Tolualdehyde	2.036	2.099 E3	-3.1	99	-0.06
10	m,p-Tolualdehyde	2.343	2.507 E3	-7.0	104	-0.06
11	Hexaldehyde	2.875	2.933 E3	-2.0	106	-0.06
12	2,5-Dimethylbenzaldehyde	1.924	2.101 E3	-9.2	104	-0.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181007.D Vial: 10
Acq On : 18-Jun-2010, 10:09:52 Operator: HC/SM
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:36 2010 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (Not Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181007.D Vial: 10
Acq On : 18-Jun-2010, 10:09:52 Operator: HC/SM
Sample : 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 10:36 2010 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	14469689	1550.400	ng/ml
2)	Acetaldehyde	1.25	10650625	1581.331	ng/ml
3)	Propionaldehyde	2.26	7787236	1601.645	ng/ml
4)	Crotonaldehyde	3.13	6407638	1572.031	ng/ml
5)	Butyraldehyde	3.67	6176976	1533.013	ng/ml
6)	Benzaldehyde	4.52	4424319	1634.566	ng/ml
7)	Isovaleraldehyde	5.02	5767912	1625.815	ng/ml
8)	Valeraldehyde	5.28	5065269	1509.941	ng/ml
9)	o-Tolualdehyde	5.76	3149174	1547.098	ng/ml
10)	m,p-Tolualdehyde	5.94	7521101	3210.566	ng/ml
11)	Hexaldehyde	6.91	4399389	1530.024	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.13	3151429	1637.923	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181020.D Vial: 10
Acq On : 18-Jun-2010, 12:26 Operator: HC/SM
Sample : Mid CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

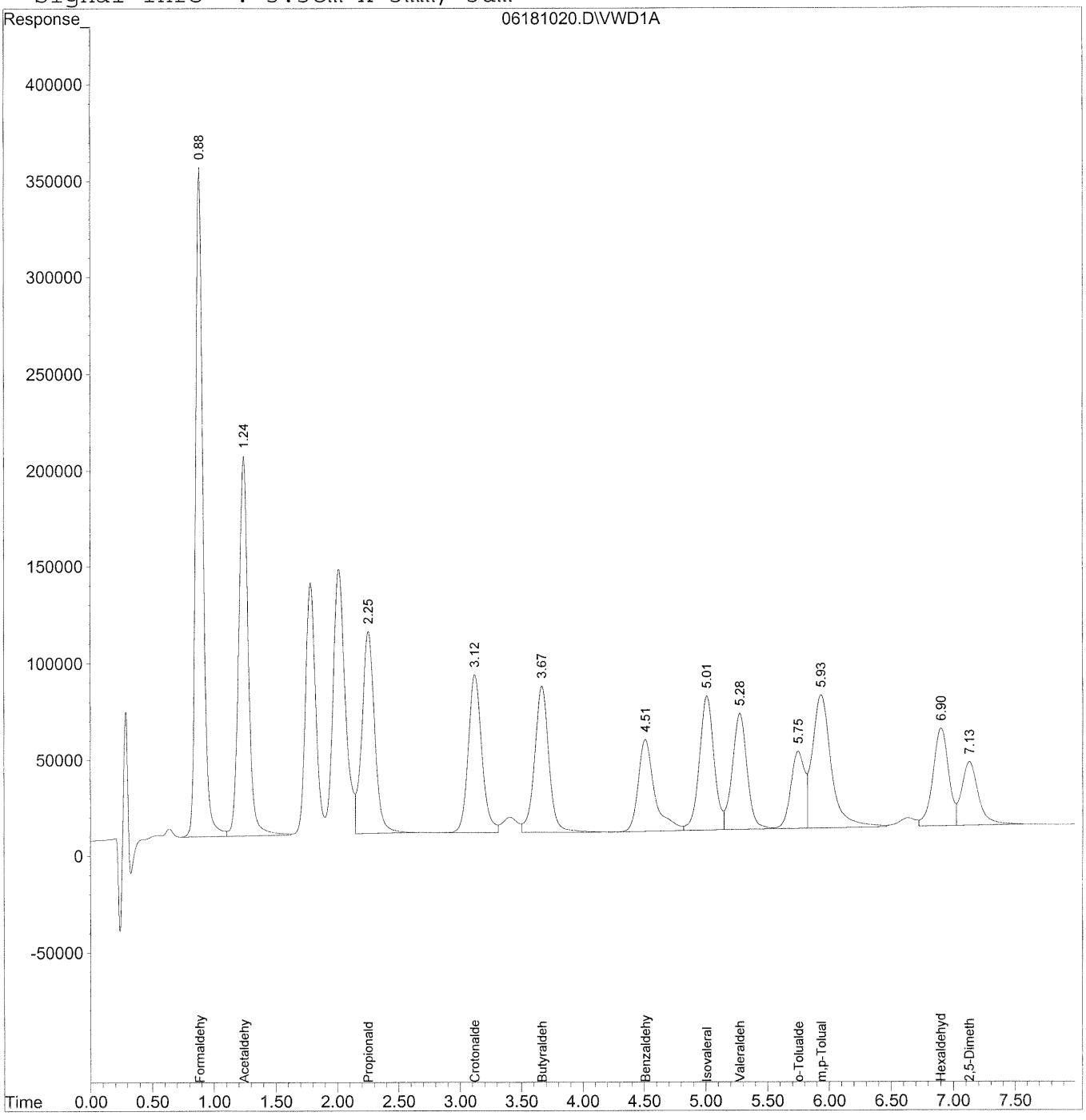
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.696 E3	-3.9	104	-0.02
2	Acetaldehyde	6.735	7.093 E3	-5.3	104	-0.02
3	Propionaldehyde	4.862	5.046 E3	-3.8	104	-0.04
4	Crotonaldehyde	4.076	4.237 E3	-3.9	102	-0.05
5	Butyraldehyde	4.029	4.091 E3	-1.5	104	-0.05
6	Benzaldehyde	2.707	2.943 E3	-8.7	111	-0.06
7	Isovaleraldehyde	3.548	3.849 E3	-8.5	104	-0.06
8	Valeraldehyde	3.355	3.372 E3	-0.5	103	-0.06
9	o-Tolualdehyde	2.036	2.088 E3	-2.6	99	-0.06
10	m,p-Tolualdehyde	2.343	2.488 E3	-6.2	104	-0.06
11	Hexaldehyde	2.875	2.906 E3	-1.1	105	-0.06
12	2,5-Dimethylbenzaldehyde	1.924	2.067 E3	-7.4	102	-0.06

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181020.D Vial: 10
Acq On : 18-Jun-2010, 12:26 Operator: HC/SM
Sample : Mid CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 12:47 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181020.D Vial: 10
Acq On : 18-Jun-2010, 12:26 Operator: HC/SM
Sample : Mid CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 12:47 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

6/21/10

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	14544006	1558.363	ng/ml
2)	Acetaldehyde	1.25	10639445	1579.671	ng/ml
3)	Propionaldehyde	2.26	7568809	1556.720	ng/ml
4)	Crotonaldehyde	3.12	6355726	1559.295	ng/ml
5)	Butyraldehyde	3.67	6137099	1523.116	ng/ml
6)	Benzaldehyde	4.51	4413814	1630.685	ng/ml
7)	Isovaleraldehyde	5.01	5773117	1627.282	ng/ml
8)	Valeraldehyde	5.28	5058159	1507.821	ng/ml
9)	o-Tolualdehyde	5.75	3131385	1538.358	ng/ml
10)	m,p-Tolualdehyde	5.94	7464978	3186.609	ng/ml
11)	Hexaldehyde	6.91	4358799	1515.907	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.13	3101215	1611.825	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Evaluate Continuing Calibration Report

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181032.D Vial: 10
Acq On : 18-Jun-2010, 14:32:34 Operator: HC/SM
Sample : Mid CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e

Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration

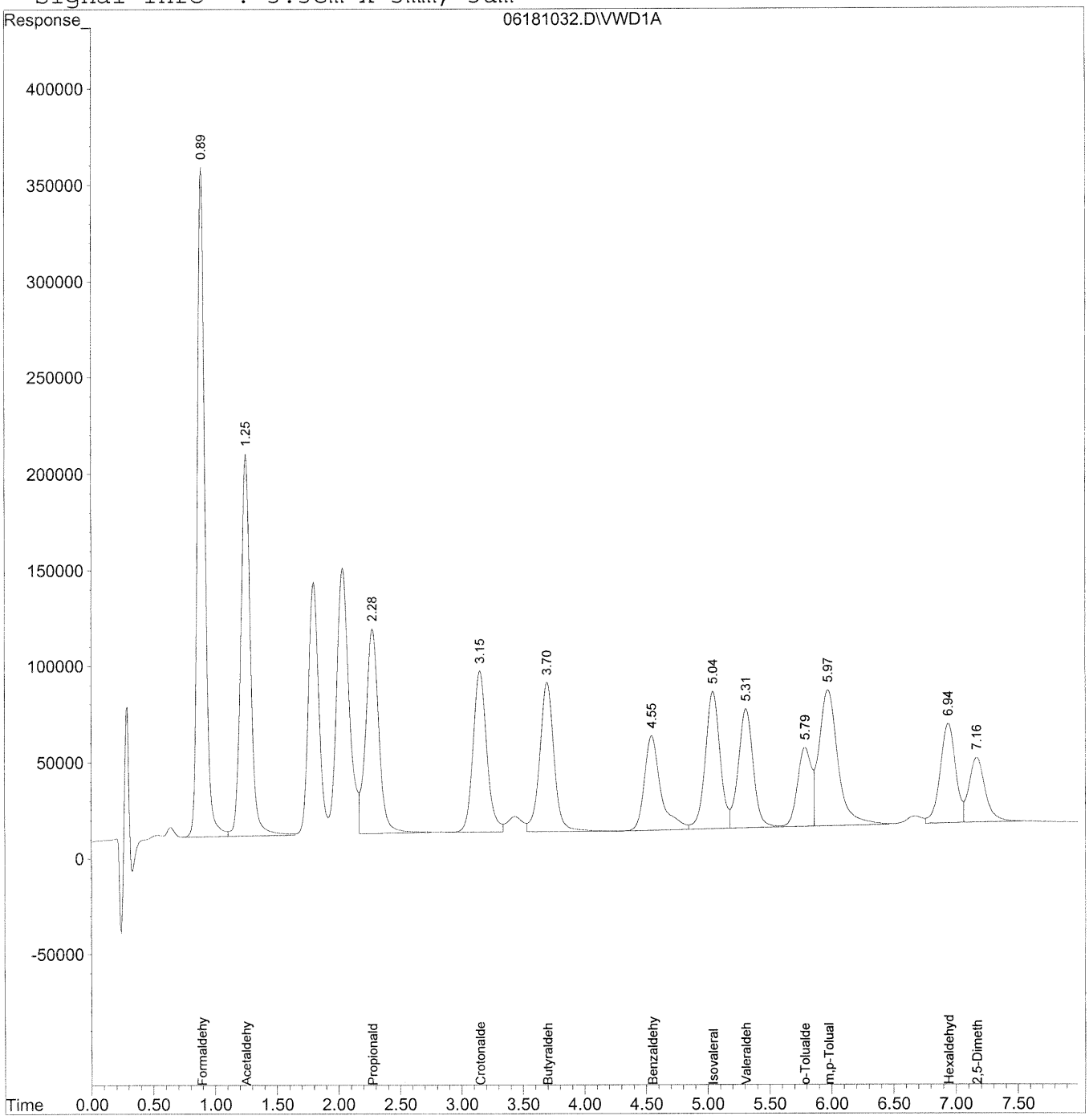
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	Formaldehyde	9.333	9.881 E3	-5.9	106	0.00
2	Acetaldehyde	6.735	7.243 E3	-7.5	107	-0.01
3	Propionaldehyde	4.862	5.206 E3	-7.1	107	-0.02
4	Crotonaldehyde	4.076	4.313 E3	-5.8	104	-0.02
5	Butyraldehyde	4.029	4.174 E3	-3.6	106	-0.02
6	Benzaldehyde	2.707	3.004 E3	-11.0	113	-0.02
7	Isovaleraldehyde	3.548	3.920 E3	-10.5	106	-0.02
8	Valeraldehyde	3.355	3.426 E3	-2.1	105	-0.02
9	o-Tolualdehyde	2.036	2.119 E3	-4.1	100	-0.02
10	m,p-Tolualdehyde	2.343	2.496 E3	-6.5	104	-0.02
11	Hexaldehyde	2.875	2.898 E3	-0.8	104	-0.02
12	2,5-Dimethylbenzaldehyde	1.924	2.016 E3	-4.8	99	-0.02

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181032.D Vial: 10
Acq On : 18-Jun-2010, 14:32:34 Operator: HC/SM
Sample : Mid CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:02 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2010_06\18\06181032.D Vial: 10
Acq On : 18-Jun-2010, 14:32:34 Operator: HC/SM
Sample : Mid CCV 1500ng/ml TO-11A S21-04211003 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 18 15:02 19110 Quant Results File: TO110510.RES

Quant Method : J:\LC02\METHODS\TO110510.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Jun 17 15:29:28 2010
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.89	14821245	1588.069	ng/ml
2)	Acetaldehyde	1.26	10863834	1612.987	ng/ml
3)	Propionaldehyde	2.28	7809585	1606.242	ng/ml
4)	Crotonaldehyde	3.15	6469370	1587.176	ng/ml
5)	Butyraldehyde	3.70	6261170	1553.909	ng/ml
6)	Benzaldehyde	4.55	4506729	1665.013	ng/ml
7)	Isovaleraldehyde	5.05	5879295	1657.210	ng/ml
8)	Valeraldehyde	5.31	5138393	1531.739	ng/ml
9)	o-Tolualdehyde	5.79	3179215	1561.856	ng/ml
10)	m,p-Tolualdehyde	5.98	7487639	3196.283	ng/ml
11)	Hexaldehyde	6.94	4346974	1511.795	ng/ml
12)	2,5-Dimethylbenzaldehyde	7.17	3023448	1571.406	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

RUN LOGS

Injection Log

Directory: j:\lc02\data\to11a\2010_05\12

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	14	05121001.d	1.	prime		12-May-10, 23:5
2	14	05121002.d	1.	prime		12-May-10, 12:0
3	14	05121003.d	1.	prime		12-May-10, 12:2
4	14	05121004.d	1.	prime		12-May-10, 12:3
5	11	05121005.d	1.	ACN blank lot CY331		12-May-10, 12:5
6	126	05121006.d	1.	50ng/ml TO-11A S21-03091012		12-May-10, 25:0
7	126	05121007.d	1.	50ng/ml TO-11A S21-03091012		12-May-10, 25:1
8	126	05121008.d	1.	50ng/ml TO-11A S21-03091012		12-May-10, 25:2
9	127	05121009.d	1.	100ng/ml TO-11A S21-03091009		12-May-10, 25:4
10	127	05121010.d	1.	100ng/ml TO-11A S21-03091009		12-May-10, 25:5
11	127	05121011.d	1.	100ng/ml TO-11A S21-03091009		12-May-10, 26:0
12	128	05121012.d	1.	500ng/ml TO-11A S21-03091008		12-May-10, 26:1
13	128	05121013.d	1.	500ng/ml TO-11A S21-03091008		12-May-10, 26:2
14	128	05121014.d	1.	500ng/ml TO-11A S21-03091008		12-May-10, 26:3
15	129	05121015.d	1.	1500ng/ml TO-11A S21-04211003		12-May-10, 26:4
16	129	05121016.d	1.	1500ng/ml TO-11A S21-04211003		12-May-10, 26:5
17	129	05121017.d	1.	1500ng/ml TO-11A S21-04211003		12-May-10, 27:0
18	130	05121018.d	1.	5000ng/ml TO-11A S21-03091001		12-May-10, 27:1
19	130	05121019.d	1.	5000ng/ml TO-11A S21-03091001		12-May-10, 27:5
20	130	05121020.d	1.	5000ng/ml TO-11A S21-03091001		12-May-10, 28:0
21	131	05121021.d	1.	10000ng/ml TO-11 S21-03091007		12-May-10, 28:1
22	131	05121022.d	1.	10000ng/ml TO-11 S21-03091007		12-May-10, 28:2
23	131	05121023.d	1.	10000ng/ml TO-11 S21-03091007		12-May-10, 28:3
24	132	05121024.d	1.	~1500 TO-11A ICV S21-03091003		12-May-10, 28:4

Injection Log

Directory: j:\lc02\data\to11a\2010_06\16

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	10	06151051.d	1.	8330 50ug/ml		16-Jun-10, 28:5
2	10	06151052.d	1.	8330 50ug/ml		16-Jun-10, 29:0
3	11	06161001.d	1.	Prime		16-Jun-10, 21:0
4	10	06161002.d	1.	1500ng/ml TO-11A S21-04211003		16-Jun-10, 21:1
5	12	06161003.d	1.	ACN Blk		16-Jun-10, 21:2
6	101	06161004.d	1.	P1001953-001 2ml		16-Jun-10, 21:3
7	102	06161005.d	1.	P1001953-002 2ml		16-Jun-10, 22:0
8	102	06161006.d	1.	P1001953-002dup 2ml		16-Jun-10, 22:1
9	103	06161007.d	1.	X P1001953-003 2ml	– Re-run see 6/17/10	16-Jun-10, 22:2
10	104	06161008.d	1.	P1001953-004 2ml		16-Jun-10, 22:3
11	105	06161009.d	1.	P1001953-005 2ml		16-Jun-10, 22:4
12	106	06161010.d	1.	P1001953-006 2ml		16-Jun-10, 22:5
13	107	06161011.d	1.	P1001953-007 2ml		16-Jun-10, 23:1
14	108	06161012.d	1.	X P1001953-008 2ml	– Re-run see 6/17/10	16-Jun-10, 23:2
15	109	06161013.d	1.	P1001953-009 2ml		16-Jun-10, 23:3
16	12	06161014.d	1.	ACN Blank		16-Jun-10, 23:4
17	10	06161015.d	1.	Mid 1500ng/ml TO-11A S21-04211003		16-Jun-10, 23:5
18	110	06161016.d	1.	P1001953-010 2ml		16-Jun-10, 12:0
19	111	06161017.d	1.	P1001953-011 2ml		16-Jun-10, 12:1
20	112	06161018.d	1.	P1001953-012 2ml		16-Jun-10, 12:2
21	113	06161019.d	1.	P1001953-013 2ml		16-Jun-10, 12:3
22	114	06161020.d	1.	P1001953-014 2ml		16-Jun-10, 12:4
23	115	06161021.d	1.	P1001953-015 2ml		16-Jun-10, 12:5
24	116	06161022.d	1.	P1001953-016 2ml		16-Jun-10, 25:0
25	117	06161023.d	1.	P1001953-017 2ml		16-Jun-10, 25:1
26	118	06161024.d	1.	P1001953-018 2ml		16-Jun-10, 25:2
27	119	06161025.d	1.	P1001953-019 2ml		16-Jun-10, 25:3
28	120	06161026.d	1.	P1001953-020 2ml		16-Jun-10, 25:4
29	12	06161027.d	1.	ACN Blank #1		16-Jun-10, 25:5
30	10	06161028.d	1.	CCV 1500 ng/ml TO-11A S21-04211003	→ must Re-run CCV has carry over from dirty samples. Does not met criteria. see 6/17 + 6/18 data	16-Jun-10, 26:0
31	13	06161029.d	1.	ACN Blank #2		16-Jun-10, 26:1
32	121	06161030.d	1.	P1001953-021 2ml		16-Jun-10, 26:2
33	121	06161031.d	1.	P1001953-021dup 2ml		16-Jun-10, 26:3
34	122	06161032.d	1.	P1001953-022 2ml		16-Jun-10, 26:4
35	123	06161033.d	1.	P1001953-023 2ml		16-Jun-10, 26:5
36	124	06161034.d	1.	P1001953-024 2ml		16-Jun-10, 27:1
37	125	06161035.d	1.	P1001953-025 2ml		16-Jun-10, 27:2
38	126	06161036.d	1.	P1001953-026 2ml		16-Jun-10, 27:3
39	127	06161037.d	1.	P1001953-027 2ml		16-Jun-10, 27:4
40	128	06161038.d	1.	P1001953-028 2ml		16-Jun-10, 27:5
41	129	06161039.d	1.	P1001953-029 2ml		16-Jun-10, 28:0
42	13	06161040.d	1.	ACN Blank #2		16-Jun-10, 28:1
43	10	06161041.d	1.	End CCV 1500ng/m TO-11A S21-04211003		16-Jun-10, 28:2

Injection Log

Directory: j:\lc02\data\to11a\2010_06\17

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	10	06171001.d	1.	CCV 1500ng/ml TO-11A S21-04211003		17-Jun-10, 21:3
2	12	06171002.d	1.	ACN Blank Lot #57196HK		17-Jun-10, 21:4
3	101	06171003.d	1.	P1001953-003 2ml		17-Jun-10, 21:5
4	102	06171004.d	1.	P1001953-008 2ml		17-Jun-10, 22:0
5	103	06171005.d	1.	P1001953-013 2ml		17-Jun-10, 22:1
6	104	06171006.d	1.	P1001953-018 2ml		17-Jun-10, 22:2
7	105	06171007.d	1.	P1001953-023 2ml		17-Jun-10, 22:3
8	106	06171008.d	1.	P1001953-028 2ml		17-Jun-10, 22:4
9	12	06171009.d	1.	ACN Blank		17-Jun-10, 22:5
10	10	06171010.d	1.	CCV 1500ng/ml TO-11A S21-04211003		17-Jun-10, 23:0
11	107	06171011.d	1.	P1001953-001 10x	2.0ml	17-Jun-10, 23:1
12	108	06171012.d	1.	P1001953-002 10x		17-Jun-10, 23:2
13	109	06171013.d	1.	P1001953-005 10x		17-Jun-10, 23:3
14	110	06171014.d	1.	P1001953-006 10x		17-Jun-10, 23:5
15	111	06171015.d	1.	P1001953-007 10x		17-Jun-10, 12:0
16	112	06171016.d	1.	P1001953-010 10x		17-Jun-10, 12:1
17	113	06171017.d	1.	P1001953-011 10x		17-Jun-10, 12:2
18	114	06171018.d	1.	P1001953-012 10x		17-Jun-10, 12:3
19	115	06171019.d	1.	P1001953-015 10x		17-Jun-10, 12:4
20	116	06171020.d	1.	P1001953-016 10x		17-Jun-10, 12:5
21	12	06171021.d	1.	ACN Blank		17-Jun-10, 25:0
22	10	06171022.d	1.	CCV 1500ng/ml TO-11A S21-04211003		17-Jun-10, 25:1
23	117	06171023.d	1.	P1001953-017 10x	2.0ml	17-Jun-10, 25:2
24	118	06171024.d	1.	P1001953-020 10x		17-Jun-10, 25:3
25	119	06171025.d	1.	P1001953-021 10x		17-Jun-10, 25:4
26	120	06171026.d	1.	P1001953-022 10x		17-Jun-10, 25:5
27	121	06171027.d	1.	P1001953-025 10x		17-Jun-10, 26:0
28	122	06171028.d	1.	P1001953-026 10x		17-Jun-10, 26:1
29	123	06171029.d	1.	P1001953-027 10x		17-Jun-10, 26:2
30	124	06171030.d	1.	P1001953-027 10x HC		17-Jun-10, 26:3
31	12	06171031.d	1.	ACN Blank		17-Jun-10, 26:4
32	12	06171032.d	1.	ACN Blank		17-Jun-10, 26:5
33	10	06171033.d	1.	CCV 1500ng/ml TO-11A S21-04211003		17-Jun-10, 27:0
34	11	06171034.d	1.	acn blk		17-Jun-10, 27:1
35	125	06171035.d	1.	P1001953-010 2ml		17-Jun-10, 27:2
36	126	06171036.d	1.	P1001953-011 2ml		17-Jun-10, 27:3
37	127	06171037.d	1.	P1001953-012 2ml		17-Jun-10, 27:4
38	128	06171038.d	1.	P1001953-014 2ml	– Reruns see 6/18/10	17-Jun-10, 28:0
39	129	06171039.d	1.	P1001953-015 2ml		17-Jun-10, 28:1
40	130	06171040.d	1.	P1001953-016 2ml		17-Jun-10, 28:2
41	131	06171041.d	1.	P1001953-017 2ml		17-Jun-10, 28:3
42	131	06171042.d	1.	P1001953-017dup 2ml		17-Jun-10, 28:4
43	132	06171043.d	1.	P1001953-019 2ml	– Reruns 6/18/10	17-Jun-10, 28:5
44	11	06171044.d	1.	acn		17-Jun-10, 29:0
45	11	06171045.d	1.	acn		17-Jun-10, 29:1
46	10	06171046.d	1.	CCV 1500ng/ml TO-11A S21-04211003		17-Jun-10, 29:2
47	133	06171047.d	1.	P1001953-020 2ml		17-Jun-10, 29:3
48	134	06171048.d	1.	P1001953-021 2ml		17-Jun-10, 29:4
49	135	06171049.d	1.	P1001953-022 2ml		17-Jun-10, 29:5
50	136	06171050.d	1.	P1001953-024 2ml	– Reruns see 6/18/10	17-Jun-10, 30:0
51	137	06171051.d	1.	P1001953-025 2ml		17-Jun-10, 30:1
52	138	06171052.d	1.	P1001953-026 2ml		17-Jun-10, 30:2
53	139	06171053.d	1.	P1001953-027 2ml		17-Jun-10, 30:3
54	140	06171054.d	1.	P1001953-029 2ml	– Reruns 6/18/10	17-Jun-10, 30:4
55	141	06171055.d	1.	acn		17-Jun-10, 30:5
56	141	06171056.d	1.	acn		17-Jun-10, 31:0
57	10	06171057.d	1.	CCV 1500ng/ml TO-11A S21-04211003	– End STD.	17-Jun-10, 31:1

Injection Log

Directory: j:\lc02\data\to11a\2010_06\18

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	11	06181001.d	1.	Prime		18-Jun-10, 21:0
2	10	06181002.d	1.	CCV 1500ng/ml TO-11A S21-04211003		18-Jun-10, 21:1
3	12	06181003.d	1.	ACN Blank Lot #57196HK		18-Jun-10, 21:2
4	101	06181004.d	1.	P1001953-014		18-Jun-10, 21:3
5	102	06181005.d	1.	P1001953-019		18-Jun-10, 21:4
6	103	06181006.d	1.	P1001953-029		18-Jun-10, 21:5
7	10	06181007.d	1.	CCV 1500ng/ml TO-11A S21-04211003		18-Jun-10, 22:0
8	104	06181008.d	1.	P1001862 MB Back 1ml		18-Jun-10, 22:2
9	105	06181009.d	1.	P1001862 MB Front 1ml		18-Jun-10, 22:3
10	106	06181010.d	1.	P1001862 CB Back 1ml		18-Jun-10, 22:4
11	107	06181011.d	1.	P1001862 CB Front 1ml		18-Jun-10, 22:5
12	108	06181012.d	1.	P1001862-001 Back 1ml		18-Jun-10, 23:0
13	109	06181013.d	1.	P1001862-002 Back 1ml		18-Jun-10, 23:1
14	110	06181014.d	1.	P1001862-003 Back 1ml		18-Jun-10, 23:2
15	111	06181015.d	1.	P1001862-004 Back 1ml		18-Jun-10, 23:3
16	112	06181016.d	1.	P1001862-005 Back 1ml		18-Jun-10, 23:4
17	113	06181017.d	1.	P1001862-006 Back 1ml		18-Jun-10, 23:5
18	114	06181018.d	1.	P1001862-007 Back 1ml		18-Jun-10, 12:0
19	115	06181019.d	1.	P1001862-007 Duplicate Back 1ml		18-Jun-10, 12:1
20	10	06181020.d	1.	Mid CCV 1500ng/ml TO-11A S21-04211003		18-Jun-10, 12:2
21	116	06181021.d	1.	P1001862-001 Front 1ml		18-Jun-10, 12:3
22	117	06181022.d	1.	P1001862-002 Front 1ml		18-Jun-10, 12:4
23	118	06181023.d	1.	P1001862-003 Front 1ml		18-Jun-10, 12:5
24	119	06181024.d	1.	P1001862-004 Front 1ml		18-Jun-10, 25:0
25	119	06181025.d	1.	P1001862-004 Front 1ml Dup Injection		18-Jun-10, 25:1
26	120	06181026.d	1.	P1001862-005 Front 1ml		18-Jun-10, 25:3
27	121	06181027.d	1.	P1001862-006 Front 1ml		18-Jun-10, 25:4
28	122	06181028.d	1.	P1001862-007 Front 1ml		18-Jun-10, 25:5
29	123	06181029.d	1.	P1001862-007 Duplicate Front 1ml		18-Jun-10, 26:0
30	12	06181030.d	1.	ACN Blank Lot #57196HK		18-Jun-10, 26:1
31	124	06181031.d	1.	P1001953-024 2ml		18-Jun-10, 26:2
32	10	06181032.d	1.	Mid CCV 1500ng/ml TO-11A S21-04211003		18-Jun-10, 26:3
33	101	06181033.d	1.	P1001862-003 Front 1ml 10x		18-Jun-10, 26:4
34	102	06181034.d	1.	P1001862-006 Front 1ml 10x		18-Jun-10, 26:5
35	10	06181035.d	1.	Closing CCV 1500ng/ml TO-11A S21-042110		18-Jun-10, 27:0